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The Earliest Instrument: Ritual Power and Fertility Magic of the Flute in Upper Paleolithic Culture

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The Earliest Instrument: Ritual Power and Fertility Magic of the Flute in Upper Paleolithic Culture

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The Earliest Instrument: Ritual Power and Fertility Magic of the Flute in Upper Paleolithic Culture

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The present study examines the earliest known musical instruments, Upper Paleolithic flutes. Flutes dating to the Upper Paleolithic period are the oldest musical instruments that have survived in the archeological record. These have been discovered at archeological sites in Europe dating from approximately 40,000 to 15,000 years ago. Although humans were most likely creating music prior to this time, the people who entered Europe approximately 40,000 years ago began to create musical instruments that have survived to the present day. This study investigates the significance and function of these instruments in Upper Paleolithic culture. Analysis of the artifacts is followed by discussions of archeological contexts, Upper Paleolithic art, ethnographic comparison, and the flute in mythology. Such diverse sources provide multiple layers of evidence regarding the role of the flute in Upper Paleolithic culture. The phallic shape of the instrument and the fact that it is played with the breath, also a symbol of life, connect the flute with the fertility of humans, plants, and animals, the cycle of life and death, and rebirth after death. There is evidence that the flute was intrinsically linked to these

themes even in the Upper Paleolithic period, in which the flute was of vital significance, as it was magically imbued with the power to bestow life.

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Chapter 1: Flutes in the Context of Upper Paleolithic Culture

The intention of this study is to explore the origin of the flute and investigate its significance in Upper Paleolithic culture. Pertaining exclusively to Upper Paleolithic Europe, flutes are the earliest known musical instruments that have survived in the archeological record.[1] Although there is evidence of human creativity and symbolic thinking approximately 90,000 years ago, the first evidence of musical activity is found in Upper Paleolithic flutes that are approximately 40,000 years old. Therefore, the study of these extant instruments can contribute to our understanding of the broader role of music in the history of human culture. Various sources of information, including the flutes themselves, archeological contexts, Upper Paleolithic art, and ethnographic sources indicate that the essential cultural significance of the flute lay in its intrinsic connection to the themes of fertility, union, procreation, transformation, and rebirth.

ROLE IN UPPER PALEOLITHIC CULTURE

The flutes that have survived from the Upper Paleolithic era must be considered in light of prehistoric man's desire to merge with the natural

[1] Almost all of the flutes were discovered at cave sites. While the oldest were discovered at three sites in close proximity to each other in the Swabian Jura of southern Germany, flutes were distributed throughout Europe during the Upper Paleolithic era. Countries in which flutes have been excavated include not only Germany, but also France, Austria, Slovenia, Croatia, Hungary, Belgium, the Czech Republic, Moldova, and Spain. The majority of archeological sites at which flutes have been discovered are in France.

world. The flutes functioned in establishing a connection between human beings and the physical world and nonvisible, spirit worlds. In shamanic practice, the instruments were capable of symbolically transforming the player into a bird or other animal species, enabling the shamanic flight or journey. As the shaman becomes the bird or animal, a state of unity and identification with the natural world is established. The player thus merges with the natural world, achieving union with his environment. The very fabrication of the flutes from animal bone – for the most part, bird bone or mammoth ivory – is suggestive of prehistoric man's desire to merge with the animal world through musical means, so these musical instruments were links between the human and animal realms. In any case, Upper Paleolithic flutes are artifacts that remain, just like the cave paintings of the period, as testament to prehistoric people's drive to unite with the external world.

Upper Paleolithic flutes were most commonly fabricated from bird bone. Flutes fabricated from the wing bones of birds appear to have been links between the human and spirit realms, the latter symbolically associated with birds. In flight, birds rise above the quotidian, human world. The instrument itself and its sonic projection both have symbolic significance. Bird-bone flutes are symbolically associated with the celestial realm of birds, possibly signifying a spiritual realm. Flutes were also made of other animal bones, perhaps also having symbolic significance. Some of the earliest flutes were fabricated from mammoth ivory. Artifacts constructed from the bones of

cave bears and the phalanges[2] of reindeer are possibly flutes and whistles. Ethnographic evidence suggests that the mammoth, cave bear, reindeer, and bird may have been associated with shamanism as it was practiced during the Upper Paleolithic period. There is ethnographic evidence for this association. Central Asian and Siberian shamans are assisted in the shamanic journey by the spirits of diverse animals: bears, wolves, hares, reindeer, and birds (especially the eagle, goose, crow, owl, etc.).[3]

COMMUNICATION

In human culture, both nonverbal and verbal communication are essential in defining and communicating the shared values, attitudes, goals, and practices of a group. Nonverbal communication encompasses art, symbol, and music. Mythology, art, and music are means of communication superior to verbal communication in the adaptive process of creating unity with the visible and nonvisible worlds. It appears that these forms of communication were the inventions of the first anatomically modern humans to occupy the European continent.[4]

It appears that visual and auditory means of expression were closely linked in Upper Paleolithic culture. There is an auditory component in the

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[2] A phalange is any of the toe bones.

[3] Manabu Waida, "Problems of Central Asian and Siberian Shamanism," *Numen* 30, Fasc. 2 (Dec. 1983): 231.

[4] Werner Herzog, Director, *Cave of Forgotten Dreams*, Creative Differences, History Films, Ministère de la Culture et de la Communication, 2010.

visual representations of numerous animals at Chauvet. The production of sound is implied in the paintings of these animals. A lioness growls at an approaching male. Horses are depicted whinnying, and two rhinoceroses are depicted engaged in combat with their horns crashing against one other.[5] One hears the sounds of these animals in viewing their visual depictions. There is also evidence that at Upper Paleolithic cave sites, the placement of parietal paintings and engravings is dependent upon the degree of resonance at certain locations. Parietal art, usually depictions of animals, is placed in the most resonant locations within a cave.[6] Here, again, we see the synergy of auditory and visual means of communication. Art – sculpture, engravings, and paintings – and music during the Upper Paleolithic era were most likely integrated art forms.

Upper Paleolithic flutes can be said to have facilitated nonverbal communication, which encompassed symbolic as well as musical forms. According to modern conceptions of music and musical instruments, the flutes were capable of producing pitches, hence music. However, the communicative value of the instruments was not restricted to the sound created on the instrument. The flutes communicated symbolically as well as musically. Three attributes of Upper Paleolithic flutes endowed the instruments with symbolic meaning: the engravings on their surfaces, the

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[5] Ibid.

[6] Iegor Reznikoff, "Sound Resonance in Prehistoric Times: A Study of Paleolithic Painted Caves and Rocks," *Journal of the Acoustical Society of America* (2008): 4138.

materials from which they are fabricated, and the shape of the instruments. Many of the flutes are engraved with series of notches and cross-hatching. The markings on the surfaces of the instruments appear to encode information in a symbolic system. The material from which the flutes were made is also symbolically significant. They are fabricated from the bodies of animals, associating the flutes with those animal species and, as the bones were those of living animals, with the life force itself. Bird song, or the other animal sounds, may have been imitated through the use of these instruments, reinforcing the symbolic association of the flutes with these animal species. The phallic shape of the flute explains its almost universal symbolic association with the phallus and the masculine, as provided by numerous ethnographic examples. It is largely the richness of the symbolic potentiality of the instruments that enables us to interpret their function and significance in Upper Paleolithic culture.

Music is a means of transformation as well as communication. In many shamanic traditions, sounds of the particular animals are imitated in order to facilitate the transformation of the shaman from human to animal form. In Australian aboriginal culture, the didgeridoo is used to imitate the sounds of the natural environment. These include animal and insect sounds as well as bird songs, the rustling of the grass, or footsteps. If a bee's humming is imitated through the instrument, the player experiences a merging with the essence of the insect, a process of identification with the insect. The player

similarly identifies with various animals and aspects of nature as he imitates their respective sounds. The imitation of animal and other natural sounds in shamanic practices and in playing the didgeridoo are examples of humanity's compulsion to identify with the animals, insects, plants, wind, etc. By imitating the sounds of nature, man is establishing or recreating union with nature, that is, the surrounding world.

UPPER PALEOLITHIC CULTURAL SUBDIVISIONS

The Upper Paleolithic era in Europe, spanning from approximately 37,000 to 12,000 years ago, is commonly subdivided into periods on the basis of cultures that were in existence at various times. The cultural artifacts that remain in the archeological record are evidence of these various cultures. The Upper Paleolithic, then, is typically divided into the Aurignacian, Gravettian, Solutrean, and Magdalenian periods (see fig. 1-1). It should be noted that, in addition to these subdivisions, the term Perigordian is sometimes used to refer to the Gravettian and preceding Châtelperronian (as defined by a specific tool industry that appears in archeological levels just above Middle Paleolithic layers) together, on the basis of shared cultural characteristics.

Aurignacian culture	ca. 37,000 – 28,000 years ago
Gravettian culture	ca. 29,000 – 22,000 years ago
Solutrean culture	ca. 22,000 – 17,000 years ago
Magdalenian culture	ca. 17,000 – 12,000 years ago

Figure 1-1. Chronological and cultural subdivisions of the Upper Paleolithic period.

The Aurignacian is the earliest subdivision of the Upper Paleolithic. Aurignacian levels lie just above the Mousterian, or Middle Paleolithic, levels pertaining to *Homo neanderthalensis*. The Aurignacian period lasted approximately 17,000 years, from 43,000 to 26,000 years ago. The Aurignacian culture was widespread, ranging from western Europe to southwest Asia. The Aurignacian culture, unlike the earlier Mousterian, pertains to anatomically modern humans and is the earliest culture of *Homo sapiens sapiens* found in Europe. This culture was concentrated in the Swabian Jura as well as in Austria, the Santander region of Spain, and the Moravian region of Slovakia. The first cave paintings and mobiliary art, such as Venus and animal figurines, date to the Aurignacian period. The oldest known cave paintings were discovered at Chauvet (Chauvet-Pont-d'Arc) cave in France.[7] These paintings have been dated to 32,000 before the present through radiocarbon dating. The oldest known sculpture is a Venus figurine sculpted from mammoth ivory, which was also discovered at the site of Höhle Fels, in close proximity to the oldest known flute.[8] There appears to be a connection between female fertility, as symbolized by the Venus figurine, and the flute.

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[7] Werner Herzog, "Herzog Enters 'The Cave of Forgotten Dreams,'" interview with Terry Gross, *Fresh Air*, WHYY, NPR, April 20, 2011.

[8] Nicholas J. Conard, "A Female Figurine from the Basal Aurignacian of Höhle Fels Cave in southwestern Germany," *Nature* 459 (2009): 248.

The Aurignacian tool industry is more diverse than those of preceding cultures and is characterized by tools made from blades knapped from a prepared stone core. It was during this period that ivory, bone, and antler were exploited for the first time. Musical instruments were made from these same materials during the Aurignacian. The earliest flutes were fabricated from mammoth ivory and bird bone. Flutes from later periods of the Upper Paleolithic – from the Gravettian, Solutrean, and Magdalenian periods – were primarily made of bird bone. The inclusion of these new materials during the Aurignacian period suggests that during this era the same materials were also used in the construction of musical instruments for the first time. It seems likely, therefore, that musical instruments fabricated of other materials, perhaps perishable materials such as reed or wood, existed before the Aurignacian. However, the oldest surviving musical instruments in the archeological record date to the Aurignacian period. There is no evidence of parietal or mobiliary art, either in Europe or elsewhere, prior to this period. Wall painting, sculpture, and musical instruments appear during this period for the first time. Aurignacian art and music were both astonishingly sophisticated and apparently without precedent. There is no evidence that humans created art and music prior to the Aurignacian period. It is enigmatic that music and art initially appear as fully developed and sophisticated art forms. Were there previous musical and artistic traditions in which no durable artifacts were produced? Was there a novel impetus for creating art and music

during the Aurignacian period? Or does evidence for preceding artistic and musical traditions still lie buried at archeological sites that have not been discovered?

The Gravettian culture spanned from approximately 28,000 to 22,000 years ago. It is usually divided into the western Gravettian (known primarily from cave sites in France) and the eastern Gravettian (the culture of mammoth hunters who inhabited the plains of central Europe and Russia). Technological innovations during the Gravettian include projectile technology, the use of nets in hunting small game, and the exploitation of the topography of the landscape in hunting herds of large game, such as bison, horse, reindeer, and mammoth. The Gravettian culture is marked by a particular stone tool industry. A carving tool known as the Noailles burin (a small retouched stone blade with a blunt, flat back) is the characteristic stone artifact of Gravettian technology. Venus figurines were produced in large number during this period, and there is evidence of elaborate burial customs. Evidence of sophisticated cordage, basketry, and textiles dating to as early as 27,000 year ago has also been discovered at a Gravettian site in Moravia.[9]

Some flutes have been classified as Perigordian. Châtelperronian tools appear immediately above Mousterian, or Middle Stone Age, levels and are thought to be the predecessors of Gravettian tools. Thus, the Châtelperronian

[9] Paul Pettitt, "The Rise of Modern Humans," in *The Human Past: World Prehistory and the Development of Human Societies*, ed. Chris Scarre (London: Thames & Hudson, 2005), 162.

and Gravettian are sometimes together referred to as the Perigordian. Because Châtelperronian artifacts appear just above Mousterian deposits, the early part of the Perigordian would have existed contemporaneously with the Aurignacian culture. Some archeologists maintain that the Perigordian is not a valid archeological subdivision and that the Gravettian lithic industry did not evolve from the much earlier Châtelperronian industry. The most commonly used subdivisions of the Upper Paleolithic period include the Aurignacian, Gravettian, Solutrean, and Magdalenia eras; the Châtelperronian and Perigordian eras are excluded from this classification system. The inventory presented in this study adopts this classification scheme. Thus, flutes that have elsewhere been classified as Perigordian are considered as pertaining to the Gravettian period.

The Solutrean period, which followed the Gravettian, spanned from about 22,000 to 17,000 years ago. The Solutrean culture first appeared in present-day Spain. It eventually spread to encompass an area bounded in the south by present-day Portugal and Normandy in the north. The Solutrean tool industry was more sophisticated than that of the Gravettian. Innovative techniques were used to produce a variety of tools, including delicate flint projectile points, barbed and tanged arrowheads, flint knives, saws, and needles, as well as other tools made from flint, bone, and antler. Solutrean art has only been found in present-day France, Spain, and Belgium. The

comparatively few examples of Solutrean art that have been discovered include sculpture in bas-relief and incised stone slabs.

The Magdalenian era was the culmination of European Upper Paleolithic culture. The earliest Magdalenian sites are all in present-day France. However, the later Magdalenian culture was widespread, with sites ranging from Portugal to Poland. The culture spanned approximately from 18,000 years ago to 10,000 years ago. The Magdalenians crafted sophisticated tools, often elaborately decorated, of flint, bone, antler, and ivory. Small, geometrically shaped stone tools, especially semilunar and triangular flint blades, are characteristic of the lithic industry. The Magdalenians hunted with spears, traps, and snares. There is evidence that they lived at both cave sites and open air sites, where they dwelt in tents. They possessed a flourishing artistic tradition, including parietal art, such as that at the well-known sites of Lascaux and Altamira, as well as a wealth of mobiliary art crafted from bone, antler, ivory, and other materials. The Magdalenian culture disappeared as the climate warmed and the reindeer and other large game upon which the Magdalenians depended dissipated as a result.

PREDATING UPPER PALEOLITHIC INSTRUMENTS: MOUSTERIAN WHISTLES OR FLUTES?

A number of artifacts dating to the Mousterian period, or Middle Paleolithic period, are possibly musical instruments. The Middle Paleolithic period predates the Upper Paleolithic period, and during this era, only Neanderthals, *Homo sapiens neanderthalensis*, lived on the European continent. *Homo sapiens sapiens*, or anatomically modern humans, arrived in Europe at the beginning of the Upper Paleolithic period, approximately 43,000 years ago. Thus far, there is no firm evidence that Neanderthals produced works of art or music, or whether the species was capable of symbolic thought and speech. However, recent excavations in Spain conducted under the direction of João Zilhão have potentially yielded evidence that Neanderthals, counter to more widely accepted views, were capable of symbolic representation in the form of body painting and perforated and painted shells most likely used for bodily adornment. Body painting and decorated shells are evidence of symbolic representation.[10]

Zilhão's assertion that Neanderthals exhibited signs of symbolic behavior is supported by recent developments in the field of genetics.

[10] João Zilhão et al., "Symbolic Use of Marine Shells and Mineral Pigments by Iberian Neandertals," *Proceedings of the National Academy of the Sciences* 107, no. 3 (January 19, 2010): 1023.

Although for a number of years it was thought that anatomically modern humans and Neanderthals were distinct species, recent studies have shown that there was interbreeding between Neanderthals and anatomically modern humans.[11] This interbreeding occurred at two separate times, approximately 60,000 years ago in the eastern Mediterranean and, more recently, about 45,000 years ago in East Asia. The interbreeding occurred after anatomically modern humans left the African continent and resulted in viable offspring, so that portions of the Neanderthal genome appear in most of the non-African human population today. Conversely, there is no evidence of Neanderthal genes in the modern African population.[12] The implication of this finding is that *Homo sapiens sapiens* and *Homo sapiens neanderthalensis* are not distinct species, but more closely related subspecies. If artifacts dating to the Mousterian are indeed musical instruments, these constitute proof that music does not pertain exclusively to anatomically modern humans, but also to Neanderthals.

Putative flutes pertaining to the Mousterian period, and thus to Neanderthals, include artifacts from the archeological sites of Haua Fteah (Lybia), Divje babe I (Slovenia), La Quina (France), Lezetxiki (Spain), and Ilsenhöhle (Germany). An artifact which is possibly a vertical flute or whistle with several finger-holes was found at the site of Haua Fteah, a large cave in

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[11] Rex Dalton, "Neanderthals May Have Interbred with Humans," *Nature News* (April 20, 2010), accessed May 17, 2011, doi:10.1038/news.2010.194.
[12] Ibid.

northeast Libya. The cave has been excavated to a depth of 14 meters, evidence of a long history of human occupation. The cave may have been occupied from as early as 200,000 years ago. This artifact is fabricated from the bone of a cave bear (*Ursus spelaeus*). Its age is tentative due to uncertainty regarding the stratigraphy at the site. The artifact was discovered in a layer dating from 80,000 to 60,000 years ago. However, the stratigraphy may have been disturbed by natural processes or during the excavation, with the succeeding layer (dating to approximately 34,000 years ago) penetrating this lower level. As a result, the archeological level to which the artifact actually pertains cannot be determined with certainty. The artifact is a fragment 2.8 cm long. There is one central perforation, with a diameter of 0.34 cm.[13] This perforation may be due to such natural processes as carnivore tooth damage or compression of upper archeological levels. Alternatively, it may be the result of deliberate piercing in the fabrication of the instrument. Fractures inside the hole suggest that the artifact was pierced with the tooth of a carnivore. There is no evidence that the hole was created with a rotating tool.[14]

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[13] Iain Morley, "The Evolutionary Origins and Archaeology of Music: An Investigation into the Prehistory of Human Musical Capacities and Behaviours" (PhD thesis, University of Cambridge, 2003), 266.

[14] Iain Davidson, "The Archaeology of Language Origins – A Review," *Antiquity* 65, no. 246 (March, 1991): 43.

Figure 1-2. Putative flute from Divje babe I, Slovenia.

A second putative Neanderthal flute pertaining to the Middle Paleolithic period was discovered at the site of Divje babe I in Slovenia. This artifact (fig. 1-2)[15] is fabricated from the femur of a cave bear and is currently housed at the National Museum of Slovenia in Ljubljana. Carbon-14 dating was used to determine the age of the artifact to approximately 43,100 years before the present, with a 700-year margin of error. The length of the artifact is 113.6 mm, and there are two complete holes on the posterior side, with diameters 9.7 mm and 9.0 mm. The distance between the centers of the holes is 35 mm. In addition to the two complete holes, it appears that there were two further holes, one on each of the broken ends of the artifact.[16] As with the 'flute' from Haua Fteah, this artifact has been the subject of debate because the holes in the artifact may be human-made finger-holes or punctures resulting from carnivore damage to the bone. The number and placement of

[15] Photograph © National Museum of Slovenia, photo Tomaž Lauko.
[16] Morley, "The Evolutionary Origins," 266.

holes piercing Mousterian artifacts varies from one artifact to another. If there were, on the contrary, a discernible pattern in the number and placement of holes, this would suggest standardization, and thus provide evidence for the function of the artifacts as musical instruments. Francesco d'Errico analyzed this artifact as well as seventy-seven other perforated bones from Divje babe I and from four other Slovenian cave bear sites. He submitted the putative flute and the other bones to microscopic analysis. He found that 73% of the perforated bones were the bones of juvenile cave bears, as is the case with the putative flute. The presence of holes in the Divje babe I artifact, therefore, cannot be considered proof of their human origin. Additionally, the large diameters of the holes does not suggest an anthropic origin. "The microscopic analysis of the putative flute confirms the natural origin of the holes. Many traces typical of carnivore action, like scoring and pitting were found near the holes and the ends of the bone. Clear tooth impressions are also present on the face opposite to the holes. The distribution of different types of carnivore damage on the bone surface is consistent with the interpretation of the two holes as resulting from carnivore action."[17] As a result of this study, most musical archeologists do not accept the artifact as a flute, maintaining that there is no evidence of human agency in the production of the holes and that

[17] Francesco d'Errico, "Just a Bone or a Flute? The Contribution of Taphonomy and Microscopy to the Identification of Prehistoric Pseudo-Musical Instruments," in *Studien zur Musikarchäologie III. The Archaeology of Sound: Origin and Organisation*, papers from the 2nd Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, September 17-23, 2000 (Rahden/Westfalen: Verlag Marie Leidorf GmbH, 2002), 90.

the cave bear bone was most likely pierced by a carnivore.[18] However, it must be noted that absence of evidence of human agency in creating the holes does not rule out the possibility that the artifact was utilized as a musical instrument.

Other artifacts dating to the Mousterian period, which are possibly flutes, include artifacts from the archeological sites of La Quina, Lezetxiki, and Ilsenhöhle. The site of La Quina is near the village of Gardes-le-Pontaroux in Charente, France. It is a cave site that was occupied during the Middle Paleolithic period and during the beginning of the Upper Paleolithic period (during the Châtelperronian and Aurignacian). Another putative flute dating to the Middle Paleolithic is an artifact from Lezetxiki in Guipúzcoa, Spain. There is evidence that the site of Lezetxiki was occupied by *Homo heidelbergensis* from approximately 150,000 years ago and later by *Homo neanderthalensis*, beginning approximately 80,000 to 70,000 years ago. In addition, there is a possible flute from Ilsenhöhle in Germany that may date to the late Mousterian or to the Early Upper Paleolithic period. However, there is no stratigraphic record for this artifact, which was constructed from the diaphysis – the shaft of a long bone – of an unknown mammal species. There were originally five holes piercing this artifact.[19]

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[18] Iain Morley, "Mousterian Musicianship? The Case of the Divje Babe I Bone," *Oxford Journal of Archaeology* 25 (2006): 330.
[19] Morley, "The Evolutionary Origins," 266.

In addition to the putative flutes discussed above, there are numerous pierced reindeer phalanges (fig. 1-3) in the archeological record dating to the Mousterian era and thus pertaining to the Neanderthals. These artifacts have been found over a wide range, from Western Europe to Crimea. The pierced phalanges may have been whistles. Alternatively, they may have been used to communicate over long distances or to attract animals in hunting. It is possible, too, that although the pierced phalanges are capable of producing sound, they did not function as sound-producers, but as artifacts of a different nature. Duncan Caldwell has proposed, for instance, that the pierced phalanges are not flutes or whistles, but human effigies.[20] These artifacts have been excavated at numerous Upper as well as Middle Paleolithic sites. The Upper Paleolithic phalanges pertain to anatomically modern humans in addition to Neanderthals, and the presence of these artifacts at both Neanderthal and Cro-Magnon sites is significant. Neanderthal and modern human utilization of pierced phalanges illustrates the continuity of a cultural tradition, which may have been a musical one, shared by two separate hominid species, or subspecies, and in existence throughout a vast span of time.

Judging from the significant number of whistles excavated at archeological sites and their diffusion throughout the world, it appears that the

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[20] Duncan Caldwell, "Palaeolithic Whistles or Figurines? A Preliminary Survey of Pre-historic Phalangeal Figurines," *Rock Art Research* 26, no. 1 (2009): 65.

whistle is one of the earliest musical instruments utilized by prehistoric man. These are made from the phalanges of antilopes, ibex, deer, reindeer, and chamois.[21] Among cervids and ovids, the first and second phalanges are naturally hollow.[22] The majority of pierced phalanges with modified holes of anthropic origin are fabricated from reindeer phalanges. The whistles are marked with the traces of animal bites. The finger-holes of the whistles were subsequently enlarged after the initial piercing of the bone by a carnivore. Research has proven that the initial piercing of the phalanges was due to bites from wolves.[23]

The examination of pierced reindeer phalanges dating to the Middle Paleolithic has shown that Neanderthals as well as Cro-Magnons transformed phalanges initially punctured by carnivore bites into phalangeal whistles by reshaping and perfecting the hole formed by the carnivore's tooth.[24] The shape of the hole affects the sound attainable. The frequency of the sound decreases as the hole is enlarged. In addition, a regular hole edge better separates the airstream, creating a better sound.[25] The pierced phalanges from the Middle Paleolithic and Upper Paleolithic periods produced tones in the range of 1860 to 3950 Hz, which is a band of frequencies in the most sensitive

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[21] Lucie Rault, *Instruments de Musique du Monde* (Paris: Éditions de La Martinière, 2000), 33.
[22] Michel Dauvois, "Les Témoins Sonores Paléolithiques Extérieurs et Souterrains," in *Sons Originels: Préhistoire de la Musique*, ed. Marcel Otte, proceedings of a conference at Liège, Belgium, December 11-13, 1992 (Liège: Université de Liège, 1994), 13.
[23] Rault, *Instruments de Musique*, 29.
[24] Dauvois, "Les Témoins Sonores," 14.
[25] Ibid., 14.

acoustic range of the human ear. A few phalanges are pierced with two holes, perhaps evidence of concern with modulation. One from the Mousterian at La Quina produces a fundamental tone that varies between 1750 and 2400 Hz, an interval of nearly a fifth, as the second hole is covered by varying degrees.[26] Therefore, the sounds produced by phalangeal whistles would clearly stand out from sounds of the natural environment.[27]

It has been suggested that a human-wolf-reindeer triad was involved in the process of creating phalangeal whistles. Wolves hunted reindeer, and as a pack of wolves fed upon the reindeer, the bones were severely damaged, and sometimes pierced. Both Neanderthals and Cro-Magnons who found a reindeer carcass after abandonment by a pack of wolves would consume any remaining meat on the carcass. They would also recover phalanges pierced by the wolves, and then regularize, and sometimes enlarge, existing holes in the phalanges in order to create whistles.[28]

The possibility exists that humans had already domesticated wolves as early as the Aurigacian era. This theory is supported by the side-by-side footprints of a boy and a wolf in the cave of Chauvet. It is possible that the boy and wolf walked side by side. The possibility remains, however, that the footprints were made as the wolf followed the boy into the cave, or vice versa,

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[26] Ibid., 14.
[27] Ibid., 14.
[28] Marc-Pierre Verge et al., "Son et musique au Paléolithique," *Pour la Science* 253 (November 1998), accessed August 29, 2011, http://presse.ffspeleo.fr/article.php3?id_article=853.

or even that the footprints were made thousands of years apart.[29] The possibility that wolves were domesticated brings to mind a further possibility – that wolves may have been used in hunting much as dogs have been employed historically. In this case, we can imagine wolves piercing the reindeer phalanges during the course of hunting with their human companions.

[29] Herzog, *Cave of Forgotten Dreams*.

Figure 1-3. Pierced reindeer phalanges, Musée d'Archéologie Nationale, France.

The phalangeal whistles may have served as a means of communication between humans. Alternatively, or additionally, the whistles may have functioned to manipulate the behavior of animals. Experiments

conducted in Canada have shown that phalangeal whistles reconstructed to resemble those of the Middle and Upper Paleolithic as well as phalangeal whistles presently used by Indians of Northwest Canada effect the behavior of reindeer. The reindeer become immobilized upon the first whistle emitted. If the whistle is blown several times with some minutes intervening, the animals lie down and remain immobile. On the contrary, the sound of a police whistle makes the reindeer flee after their initial immobilization.[30]

Whistling appears to be one of the oldest forms of human communication. Contemporary whistle languages are widespread and exist among the Wayapi of Guyana, in the northern Caucuses, in the Canary Islands, and in the Pays Basque. Whistling is possible with the mouth alone or with the mouth and hands. Whistles of various types (globular, spiral, etc.) made from naturally hollow materials can also be employed.[31]

In 1860, Edouard Lartet discovered the first phalangeal whistle at the cave of Aurignac in the Haute-Garonne.[32] In 1907, during a meeting of the Société Préhistorique Française, Louis Giraux showed that while some reindeer phalanges are pierced with irregularly shaped holes due to animal bites, others, such as the reindeer phalange discovered at the cave-shelter of Laugerie-Haute, are pierced with perfectly circular holes, which are anthropic in origin, accompanied by wear patterns (i.e., polish due to use) on certain

[30] Rault, *Instruments de Musique*, 29.
[31] Ibid., 32.
[32] Dauvois, "Les Témoins Sonores," 13.

areas of the artifacts, such as the edges of the holes (fig. 1-2). The wear patterns on the phalanges are due to their use as whistles.[33]

SOURCES

The artifacts themselves (i.e., Upper Paleolithic flutes) are the most essential primary source (see Chapters 2 and 3). The inventory provided (see Chapter 3) includes all Upper Paleolithic flutes that have been discovered to date and categorizes them according to their accordance with the principal cultural subdivisions of the Upper Paleolithic era – the Aurignacian, Perigordian/Gravettian, Solutrean, and Magdalenian periods. When it is known, the following data is listed for each flute that has been discovered: the age of the instrument, the site of its discovery, the number of finger-holes, the material from which the flute was fabricated, typology, and other salient features. Related artifacts, including pierced reindeer phalanges and bird-bone tubes without holes, are also considered. Bird-bone tubes without holes may have functioned as flutes without holes, component parts of syrinxes, bird or animal calls, or whistles.

The engravings on the surfaces of a number of instruments appear to be meaningful markings that encode symbolic information (see Chapter 4). Some engravings may have functioned to facilitate the attachment of secondary objects to the flutes, and some may have been tallies of some sort.

[33] Ibid., 13.

Comparisons with the markings used on message sticks employed by indigenous Australians and with markings found on bird calls from Scandinavia are integral in the attempt to decode the meaning of the engravings on Upper Paleolithic flutes. It must be noted that some of the artifacts presently classified as flutes may be artifacts that functioned as receptacles for the information engraved on their surfaces rather than musical instruments.

In addition to the flutes themselves, there are important clues regarding the significance of the flues that can be gleaned from the archeological sites where the instruments have been discovered. The archeological context in which Upper Paleolithic flutes have been discovered (see Chapter 5) includes the stratigraphy of each site, the nature of the sites (e.g., rock shelter, open air site, or cave site), the topography and dimensions of the sites, location of the flutes at the sites, artifacts found in close proximity to the flutes, and acoustical properties of the sites.

Upper Paleolithic art, which encompasses both parietal and mobiliary art, is an important source in determining the significance of flutes in Upper Paleolithic culture (see Chapter 6). Cave paintings and engravings in *bas relief* provide a lens through which we can glimpse cultural values, beliefs, and practices of the period. Art at Upper Paleolithic sites allows us to conceive of the function of the instruments within this culture. Because the majority of flutes are fabricated from bird bone, bird imagery is a significant

source of information. Mobiliary and parietal art found at sites where flutes have been excavated is equally important. There is a single depiction of a human dancing and possibly playing a musical instrument from the Upper Paleolithic period. As the instrument may be a flute, this engraving from the site of Les Trois Frères provides invaluable evidence in determining the function of the flute. Images of human-animal figures, symbolic signs, representations of animals, and Venus figurines also provide clues regarding the cultural context in which the flutes functioned and derived their meaning.

Ethnographic comparison[34] enables us to investigate the function and significance of the instruments within Upper Paleolithic culture (see Chapter 7). Such comparison encompasses the function of flutes within various cultural contexts, engravings and decoration on the flutes, as well as various artistic traditions, ritual practices, and spiritual and religious beliefs. This chapter includes a comparison between the engravings on the flutes and similar markings found on other types of artifcts, in particular Australian message sticks, with the aim of discerning the significative function of the former. An examination of various shamanic practices is relevant in attempting to understand the spiritual beliefs of Upper Paleolithic people,

[34] Ethnographic comparison refers to the study of the flute in a number of contemporary and historical cultures. The functions and cultural significance of the flute in the present and not-too-distant past is used to formulate hypotheses regarding the role of the flute in Upper Paleolithic culture. I have examined the flute in cultures in various parts of the world, focusing on those in which the flute has an essential cultural role.

ritual practices of the time, and the probable role that flutes played in these ritual contexts.

The mythology of various cultures offers a valuable secondary source for the present study (see Chapter 8). In many cultures, divinities have been associated with birds. This association may have existed as long ago as the Upper Paleolithic era, and flutes fabricated from bird bone may have signified the divine. Pan, a mythological being most often depicted with a syrinx, holds clues to the archetypal significance of the flute. The archetypes associated with the figure of Pan in myth reveal the universal meanings and associations of the flute in human consciousness. The symbolic associations derived from the study of Pan provide clues as to the meaning of the flute even in the earliest human cultures. The flute is significant in the mythology of the Sentani of Papua New Guinea and the Yahuna of Brazil. Both the Sentani myth of the first flute and the Yahuna sun myth provide clues for understanding the symbolic significance of the flute. The mythological flute-player of the American Southwest, frequently depicted in rock art over the last two millennia, elucidates the probable function and symbolic significance of the more ancient instrument. The mythologies of various peoples thus add another dimension to the information gleaned from ethnographic sources.

Chapter 2: Interpretation of Artifacts

The interpretation of Upper Paleolithic artifacts that may have functioned as various types of sound-producers is an issue that must be addressed. The possibility exists that artifacts generally considered to be flutes may have functioned as other types of sound-producers. These may have functioned as voice disguisers or bird or animal calls employed in hunting rather than as musical instruments. Bird-bone tubes that lack finger-holes, some of which are adorned with intricately engraved surfaces, are common in the archeological record of the Upper Paleolithic period. Although multiple hypotheses regarding their function have been proposed, no consensus has been reached. It is possible that such bird-bone tubes functioned as flutes, component parts of syrinxes, bird or animal calls, voice disguisers, or whistles. Comparison with contemporary flutes as well as other types of sound-producers informs the interpretation of Upper Paleolithic flutes as well as such bird-bone tubes lacking finger-holes.

BIRD-BONE TUBES WITHOUT FINGER-HOLES

The vast majority of Upper Paleolithic artifacts classified as flutes are accepted as musical instruments due to the presence of one or more surviving finger-holes, which are indicators that the artifact actually functioned as a flute. It must be noted that, in addition to these artifacts, there are numerous bird-bone tubes without holes in the archeological record of the Upper

Paleolithic period. Various hypotheses concerning the function of these tubes have been proposed, including theories that they were used to hold pigment or needles. The absence of holes, however, does not justify dismissing the possibility that such artifacts functioned as sound producers. It is possible, for example, that bird-bone tubes without holes functioned as flutes without holes, component parts of panpipes, bird or animal calls, or whistles.

Contemporary performance practices suggest the possibility that bird-bone tubes with no holes may have been played communally, with each instrument producing a single note. There exists a musical tradition among the Mapuche, an indigenous people of south-central Chile and southwestern Argentina, in which flutes are played communally. Each flute is a tube without finger-holes that produces a single pitch. Each person in the ensemble is thus responsible for producing the single pitch possible on his flute. The music is produced as each individual plays his note at the appropriate times, much as a bell choir performs. We must consider the possibility that Upper Paleolithic bird-bone tubes without holes were flutes that were played in a similar communal manner. Flutes dating to this era, however, have not been discovered in sizable groups. The largest collection of Upper Paleolithic flutes was excavated at the site of Isturitz in the Pyrénées-Atlantiques. However, these flutes range from the Aurignacian to the Magdalenian periods and were thus created at vastly different times.

There is no archeological evidence, therefore, that bird-bones tubes were components of syrinxes or single-pitch flutes played communally.

There is the additional possibility that bird-bone tubes not pierced with obvious finger-holes were flutes without finger-holes, each of which was capable of producing a number of pitches. There are contemporary examples of flutes without finger-holes. The tilinka (also known as the telenka or tylynka), for instance, is a flute without finger-holes commonly played in Romania. It is possible to play a variety of pitches on the flute as the player alters the speed and force of the breath and varies the degree to which the distal opening of the instrument is covered. Evidence that finger-holes on artifacts are anthropic in origin has been central in the debate regarding the use of numerous artifacts as flutes. The lack of finger-holes – or the lack of proof that the holes were man-made – does not necessarily negate the possibility that the artifact was a flute. This is evident in considering examples of contemporary flutes that lack finger-holes. Bird-bone tubes without holes could also have been similarly played as oblique flutes, with various pitches obtained by altering the speed of the voice and by obstructing to varying degrees the distal opening of the flute.

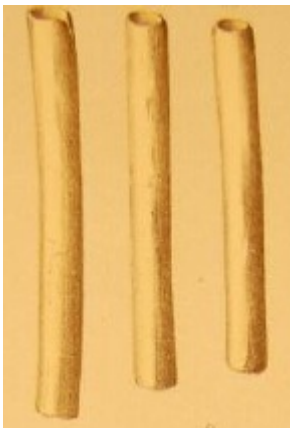

Figure 2-1. Bird-bone tubes, possibly components of a syrinx, Grotte de Gourdan, "Lorthétienne" levels, Piette Collection, Musée d'Archéologie Nationale, France.

A further possibility is that certain Upper Paleolithic artifacts are components of panpipes. Bird-bone tubes could have been used to fabricate panpipes just as they were used to construct flutes with finger-holes. However, it is difficult to determine whether a surviving bird-bone tube was part of a panpipe, since there would be no remnant of the binding that once held the tubes together. Any trace of resinous material on the artifact would not constitute proof that the tube was a component of a syrinx, since feathers or other decorative objects may have been affixed to the surface of the tube with the resin. The most likely evidence that bird-bone tubes were used in the creation of panpipes during the Upper Paleolithic would be the discovery of multiple bird-bone tubes of varying dimensions within the same archeological level at a single archeological site. The four bone pipes found at the site of Dolni-Vestonice in Moravia are likely candidates, since these tubes vary in

length. One of these has a resin plug still in place, evidence of the block and duct principle of sound production. In addition to the four pipes found at Dolni-Vestonice, groups of four bird-bone pipes have been found at several archeological sites in France. The discovery of such groups at these sites suggests the possibility that these artifacts were component parts of syrinxes. Along with nine other flutes and flute fragments, a group of four bird-bone pipes of varying lengths was discovered at Le Placard. A second group of four bird-bone pipes was found at Le Roc de Marcamps. These vary in length, with lengths of 3.7 cm, 4.3 cm, 4.9 cm, and 7.0 cm. In addition, four bird-bone fragments were found at the archeological site of Raymonden. These also vary in length, with lengths of 3.9 cm, 4.1 cm, 13.2 cm, and 14.7 cm. It is notable that most of these sites are in France, suggesting that if these artifacts are in fact components of syrinxes, the fabrication and use of panpipes may have been, to some extent, restricted to a particular geographical area. Although there is some question regarding the age of the four bone pipes from Le Placard, these probably pertain to the Magdalenian. The four bone pipes from Dolni-Vestonice have not been accurately dated, although they are certainly Upper Paleolithic artifacts. It is certain that the pipes from both Le Roc de Marcamps and Raymonden date to the Magdalenian period. The appropriation of these groups of four pipes to the Magdalenian, when precise dates are known, suggests that the syrinx may have appeared in this final era of the Upper Paleolithic. In *L'Art pendant*

L'Âge du Renne, Edouard Piette surmised that a number of artifacts he had recovered in his excavations were constituent parts of panpipes. These artifacts include three bird-bone tubes of various lengths (fig. 2-1),[35] each polished at both ends, excavated at the Grotte de Gourdan. In addition to these, Piette speculated that a bird-bone tube from the site of Laugerie-Basse (fig. 2-2)[36] might have been a component of a syrinx. The first is a tube that was engraved with four deep notches. The second tube from Laugerie-Basse was engraved with similar notches. Piette noted that reindeer tendon would have passed through the four circular notches in the first tube in order to attach it to the other tubes in the panpipe. He also interpreted the notches in the second tube as means of facilitating the attachment of the artifact to other bone tubes. A bird-bone fragment, also with circular furrows, from the Grotte de Lorthet (fig. 2-3)[37] was likewise considered to be part of a panpipe, again with the furrows facilitating attachment to other bird-bone tubes.[38] Piette attributed the very origin of music to the development of the panpipe from bird-bone tubes used as animal calls. He surmised that hunters created syrinxes by attaching bird-bone tubes that had originally functioned not musically, but pragmatically, to lure animals in the hunt. He speculated that hunters must have noticed that tubes of various lengths produced different

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[35] Edouard Piette, *L'Art pendant l'Age du Renne* (Paris: Masson et C^ie Éditeurs, 1907), Planche II.
[36] Ibid., Planche II.
[37] Ibid., Planche II, Explication de la Planche II.
[38] Ibid., Explication de la Planche II.

pitches and subsequently bound tubes of varying lengths together to produce melodies.[39]

Figure 2-2. Bird-bone tube (two views), possibly a component part of a syrinx, Laugerie-Basse, Piette Collection, Musée d'Archéologie Nationale, France.

Figure 2-3. Bird-bone tube (two views), possibly a component part of a syrinx, Grotte de Lorthet, 'lorthétienne' levels, Piette Collection, Musée d'Archéologie Nationale, France.

Ethnographic evidence suggests yet another possible function of bird-bone tubes without holes during the Upper Paleolithic. The Arapaho of

[39] Ibid., Explication de la Planche II. "Les chasseurs qui se servaient des appeaux ayant reconnu que les tubes donnaient des sons plus ou moins graves suivant leur longueur, les assemblèrent pour faire entendre des accords mélodiques. Ce fut l'origine de la musique."

Nebraska employ whistles made from the humerus, cubitus, and radius bones of wild turkey.[40] These whistles emit two distinctive sounds. Both are signals of war – one a signal of attack, the other of retreat. Bird bones may have been used as whistles during the Upper Paleolithic period as well.

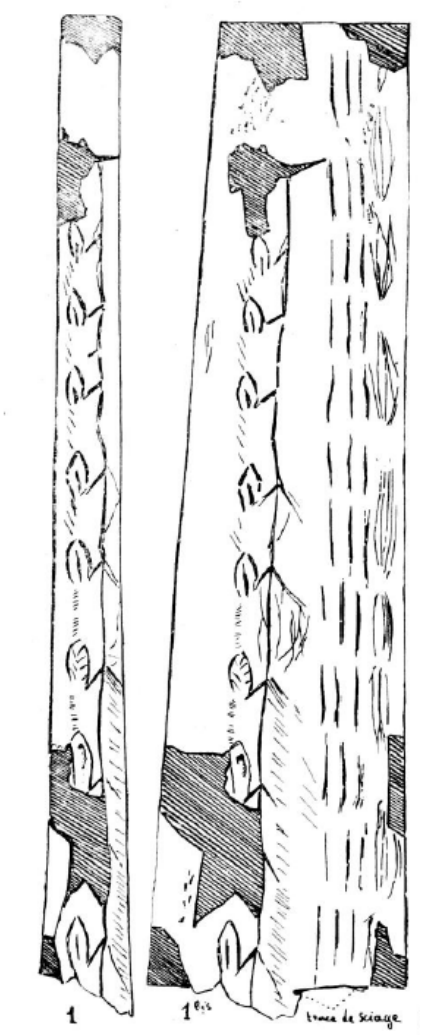

Figure 2-4. Bird-bone tube engraved with cervid ears, Saint-Marcel, Indre, France. (Image from Jean Allain, "Un Appeau Magdalénien," *Bulletin de la Société préhistorique française* 47, no. 3-4 (1950): 185.)

[40] Lucie Rault, *Instruments de Musique du Monde* (Paris: Éditions de La Martinière, 2000), 33.

Bird-bone tubes without holes may also have been used as bird or animal calls. Some polished and engraved bird-bone tubes lacking holes have been interpreted as lures for imitating the call of a female reindeer in the mating season.[41] Such lures would have thus been sound-producers with a practical function, offering hunters a distinct advantage in the ability to attract reindeer. The origin of the flute can perhaps be attributed to the transferal of such sound-producers from their original hunting use to ritual contexts in which the hunt was re-enacted symbolically. One of the most notable examples is a bird-bone tube from the site of Saint Marcel in Indre (fig. 2-4).[42] There is a line of ten cervid ears engraved on the bone, which dates to the later Magdalenian period. The engraving of the organ of hearing, the ear, upon the tube links the artifact with sound, suggesting that it and other bird-bone tubes are sound-producers. Jean Allain thought that originally a series of deer heads was engraved upon the tube, of which only the ears remained, and he considered the artifact a reindeer call.[43] Piette described numerous bird-bone tubes that he had excavated, most of which are in his collection, now at the Musée d'Archéologie Nationale, as calls. Among these are artifacts from the

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[41] Paul Bahn and Jean Vertut, *Journey through the Ice Age* (Berkeley and Los Angeles: University of California Press, 1997), 84.
[42] Jean Allain, "Un Appeau Magdalénien," *Bulletin de la Société préhistorique française* 47, no. 3-4 (1950): 185.
[43] As referred to by Dauvois, "Les Témoins Sonores," 16.

Grotte de Gourdan (fig. 2-5),[44] the Grotte des Espélugues à Lourdes, and the site of Placard.[45]

Figure 2-5. Bird-bone tube interpreted as animal call by Eduard Piette, Grotte de Gourdan, 'lorthétienne' levels, Piette Collection, Musée d'Archéologie Nationale.

With flint tools, slits have been cut at one extremity of some of these bird-bone tubes without holes. When the slit is horizontal to the primary axis of the instrument, the resulting embouchure resembles that of a recorder. When the diameter of the tube is small, the instrument created by cutting such a slit is most probably a whistle. Alternatively, the tube with an embouchure cut in this manner may be part of a composite instrument, of which the other parts do not remain. There are many ethnographic examples of composite instruments with similar embouchures.[46]

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[44] Piette, *L'Art pendant l'Age du Renne*, Planche II.
[45] Ibid., Explication de la Planche II.
[46] Dauvois, "Les Témoins Sonores," 16.

VOICE DISGUISERS

It is possible that a number of artifacts presently classified as flutes are in fact voice disguisers (fig. 2-6).[47] A voice disguiser is an instrument that has a small, buzzing membrane as an essential component of its structure. The membrane is made to vibrate indirectly by airwaves emitted by the voice or other means. The membrane itself is not struck or rubbed. Voice disguisers may be classified according to two categories. The first class of voice disguisers encompasses instruments in which the vibrating membrane modifies the sound of the speaking/singing voice. When the membrane begins to vibrate, the original sounds of the voice acquire a different timbre, a reedy or nasal intonation.[48] Upper Paleolithic bird-bone tubes without finger-holes may have functioned as such voice disguisers. The second category includes musical instruments that have been altered by the addition of a small hole, which is covered with the membrane. The soundwaves created in playing the instrument impinge upon the membrane and cause it to vibrate. The interferent vibrations change the timbre of the notes. Some Upper Paleolithic artifacts typically considered flutes may have functioned as voice disguisers of this type.

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[47] A voice disguiser is an implement used to alter one's voice in order to disguise oneself or impersonate the voice of another person or spiritual being. Henry Balfour and B. M. Blackwood, "Ritual and Secular Uses of Vibrating Membranes as Voice Disguisers," *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 78, no. 1-2 (1948): 56.

[48] Ibid., 45.

Figure 2-6. Chief of M'Fan Osyéba tribe, French Congo, performing with voice disguiser.

In addition to the artifacts that have been classified as flutes, bird-bone tubes without holes are ubiquitous in the archeological record of the Upper Paleolithic era, as previously mentioned. These artifacts, too, may have been voice disguisers. As yet, there is no consensus regarding the function of these bird-bone tubes. A vibrating membrane attached to one end of the bone would have transformed the bone into a voice disguiser. However, the buzzing membrane made from a naturally occurring perishable material would not have survived the tens of thousands of years that have passed since the Upper Paleolithic, and there is no direct evidence that the bone tubes functioned as voice disguisers. The construction of flutes from the same wing

bones suggests that the bird-bone tubes had an auditory function. Bird-bone tubes without finger-holes would pertain to the first category if the tubes were used in speaking or singing. If the bone tubes were used as pipes, or flutes without finger-holes, then they would belong to the second category. Numerous ethnographic sources confirm the possibility that the bird-bone tubes are the surviving remnants of voice disguisers, in which vibrating membranes of perishable materials such as spiders' egg cases were utilized. Discs pierced with a single hole and dating to the Upper Paleolithic have been discovered at numerous archeological sites. Again, no consensus regarding their function has been reached. There is ethnographic evidence that these artifacts were also voice disguisers.[49] An example of a disc from the late Middle Magdalenian, excavated at the site of Laugerie Basse in the Dordogne, is shown in fig. 2-7.[50] The central hole in the disc would have been covered with the buzzing membrane. The disc-shaped voice disguisers shown in fig. 2-8[51] were utilized by the Ibo of West Africa. These closely resemble the pierced discs dating to the Upper Paleolithic period.

[49] Ibid., 48.
[50] Alexander Marshack, *The Roots of Civilization* (New York: McGraw-Hill, 1972), 181.
[51] Balfour and Blackwood, "Ritual and Secular Uses," 45.

Figure 2-7. Bone disc from Laugerie Basse, Dordogne, Magdalenian, engraved with an image of a calf. The opposite side is engraved with an image of a cow, and Alexander Marshack proposes that the two images are a combined symbol of spring.[52]

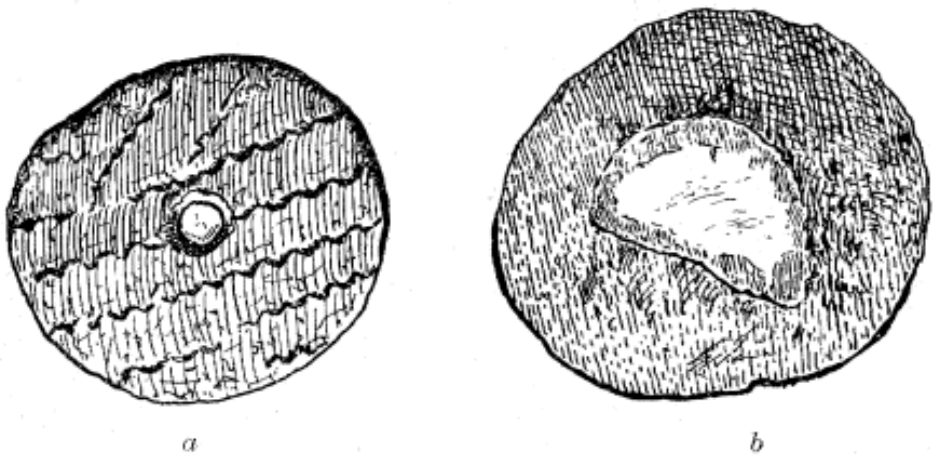

Figure 2-8. Voice disguisers, pottery and spider's egg case membrane, Ibo tribe.

[52] Marshack, *Roots of Civilization*, 180.

Voice disguisers are commonly used in ritual or ceremonial contexts in which they serve to imitate the voice of ancestors or other spirits. They are often the possessions of men only and used in secret male rituals, such as male initiation ceremonies. Women and children do not know of the existence of the voice disguisers in many societies; they do not know the true origin of the ancestral or spirit voices.[53]

A number of ethnographic specimens of voice disguisers in the collection of Pitt Rivers Museum in Oxford are constructed from bone, including bird bone. The construction of contemporary voice disguisers from these bones supports the idea that bird-bone tubes – both with and without finger-holes – dating to the Upper Paleolithic were voice disguisers. Among the voice disguisers in the collection of Pitt Rivers Museum is one made from the wing bone of a large bird made by the Abakwa Riga (Hausa) or Jukun people of Northern Nigeria (fig.2-9).[54] The tube is 19 cm long. One end is open and has a notched edge, and the other is cut off and covered with a spider's egg-cyst membrane.[55] The accession book entry states, "Along one side of the tube a wide slot, 7.5 cm long, has been cut. Round the tube is closely fitted a collar of coarse cotton-cloth, embroidered with purple wool in chequer pattern, and terminating at one end in a large tuft of red dish-brown

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[53] Balfour and Blackwood, "Ritual and Secular Uses," 46.
[54] "Pitt Rivers Museum Ojects Catalogue," accessed January 19, 2011, http://objects.prm.ox.ac.uk/pages/PRMUID20015.html.
[55] "Pitt Rivers Museum Ojects Catalogue," accessed January 19, 2011, http://databases.prm.ox.ac.uk/fmi/iwp/cgi?-db=PittRiversCollectionsOnline&-loadframes.

feathers. This collar can be slid up and down along the tube, so as to cover more or less of the lateral slot, but its function is not clear."[56] The instrument was used to simulate the voice of the Dodo, an ancestral spirit. Women were not permitted to see this instrument.[57]

Figure 2-9. Voice disguiser, bird bone with buzzing membrane of spider's cocoon, Abakwa Riga (Hausa) or Jukun people, Nigeria, Pitt Rivers Museum, University of Oxford, catalogue number 1938.34.442.

There are various enigmatic Upper Paleolithic artifacts that appear to be functional as well as decorative. However, archeologists have not been able to arrive at a consensus regarding the functions of these artifacts.

[56] "Museum Objects Catalogue," accessed January 19, 2011, http://databases.prm.ox.ac.uk/fmi/iwp/cgi?-db=PittRiversCollectionsOnline&-loadframes.
[57] Ibid.

Comparison with contemporary implements of similar typology suggests that the enigmatice Upper Paleolithic artifacts functioned as sound-producers. These include bird-bone tubes without finger-holes in addition to bird-bone tubes with one or more holes. These may have been played as vertical flutes. However, ethnographic evidence suggests that such artifacts may have had alternate functions. It is possible that some bird-bone tubes without finger-holes may have been components of syrinxes, and bird-bone tubes (either with or without finger-holes) may have been used as voice-disguisers or played as nose flutes. These alternate possibilities extend to those artifacts fabricated from mammoth ivory that have been identified as vertical flutes.

Chapter 3: Fabrication and Survey by Archeological Site

Upper Paleolithic flutes share certain typological similarities. The materials from which the instruments were fabricated hold significant clues regarding sound quality as well as symbolic and cultural significance. Although the vast majority of flutes were made from the wing bones of birds, some of the most sophisticated, and notably oldest flutes, were made from mammoth ivory. The presence of holes that are anthropic in origin, created with flint tools, seem to offer proof that the holes were deliberately placed and created with the conscious intent of fabricating flutes. However, the possibility that the holes were carved into bird bones and ivory to create artifacts of another type, either other types of sound producers or other kinds of artifacts altogether, may not be ruled out. The scale of the flutes is difficult to determine based upon the number and placement of the finger-holes alone. Replicas of the flutes allow us to conjecture which scale or scales were utilized in playing the instruments. Typology of the instruments must be considered in the larger context of the chronological and geographical distribution of the artifacts. Analysis of the distribution of the artifacts is essential in interpreting and comparing details of the flutes' construction and in attempting to ascertain the function of these instruments in Upper Paleolithic culture.

MATERIAL OF CONSTRUCTION

All of the surviving Middle and Upper Paleolithic musical instruments in the archeological record were made from the bones of animals. The most ancient musical instruments, for example, were made from reindeer phalanges. It appears that other bones, such as a cave bear rib bone, were made into scrapers. The use of bones in fabricating musical instruments points to an element of magic in manufacture of the instruments.[58] There is a magical association between the sound produced in blowing upon an instrument fabricated from a human or animal bone and the human or animal that supplied that bone. The fabrication of flutes from animal or bird bones is not without meaning. There may also be a sacrificial element in the fabrication of musical instruments from the bones of animals.

All of the flutes from the Upper Paleolithic era were fabricated either from the wing bones of birds or from the ivory of mammoth tusks. From the beginning of the Upper Paleolithic, flutes were made from the wing bones of large birds, such as swans, vultures, and eagles. Less commonly, flutes were made from mammoth tusk. The practice of fabricating flutes from bird bones still exists in certain North American tribes as well as in Central Asia. Artifacts fabricated from the bones of yet other animals, such as cave bear, have been previously identified as flutes. Debate regarding the anthropic

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[58] André Schaeffner, *Origine des Instruments de Musique: Introduction Ethnologique à l'Histoire de la Musique Instrumentale* (Paris: Mouton, 1968), 120.

construction of these artifacts and their function as sound-producers has ensued. With respect to Upper Paleolithic flutes, this discussion is limited to mammoth ivory and bird bones, as these are the exclusive materials of which proven Upper Paleolithic flutes are constructed.

Animal bones are emblematic of life itself because they were part of living animals. The vast majority of Upper Paleolithic flutes were made of the wing bones of birds, although there are examples of flutes constructed from mammoth tusk. It is notable that a Neolithic flute made from a human thigh-bone was found in Istria, further evidence that the employment of bone in the fabrication of flutes is a symbolic reference to the life force.[59] The manufacture of musical instruments from the bones of animals suggests the association of the flutes with the life force. Additionally, the instruments were played with the breath, necessary for the lives of all humans as well as the animals whose bones were utilized in the construction of the instruments. Animals are the predominant theme in Upper Paleolithic cave paintings and in the portable engravings and sculptures of the period. The focus on animal life in works of art make it clear that animals were central in Upper Paleolithic culture. Animals are depicted in various stages of life, as well as in the process of dying, as in the cave painting depicting a bird-headed man and a

[59] Fintan Vallely, *Timber the Flute Tutor* (Milltown Malbay, Ireland: Long Note Publications, 1986), 43.

fatally injured bison at Lascaux. The theme of life and death is central in Upper Paleolithic art.

The preoccupation with animal life and death is seen in the manufacture of flutes from the bones of once living animals. It is significant that flutes were crafted either from mammoth tusk or bird bones. There is a symbolic reference to animal life in the fabrication of flutes from these materials. This may explain the sudden appearance of flutes in the archeological record at the beginning of the Aurignacian period. Flutes may have been previously fabricated from materials without symbolic meaning (e.g., reed, wood), which would explain their absence in the archeological record prior to the beginning of the Upper Paleolithic era.

Although most Upper Paleolithic flutes are made of bird bones, some of the oldest flutes, dating to the very beginning of the Aurignacian period, are made of mammoth ivory. The process of constructing a flute from mammoth ivory was much more complex than the fabrication of flutes from bird bones. To create the flute, the rough shape of the instrument had to be carved out of the naturally curved mammoth tusk. The mammoth tusk was then split open between the cementum and dentine or along one of the other bedding plains in the ivory. Then, the two halves of the tusk were hollowed out, the finger-holes were carved out, and the two halves were re-bound with some kind of

glue or resin to create an airtight seam.[60] Bird bones, by contrast, are naturally hollow and, therefore, do not need to be split and bored out. It must be noted that mammoth ivory breaks and fragments easily, so it may be possible that more flutes than are known were fabricated from mammoth ivory and the remnants have been broken beyond recognition.

Flutes crafted from mammoth ivory have thus far been found exclusively at archeological sites in the Swabian Jura of southern Germany. The mammoth tusk flutes are likewise limited chronologically, and pertain only to the Aurignacian period within this region. These flutes include one excavated at the site of Geissenklösterle, originally excavated in 31 fragments, which dates to the Upper Aurignacian. Fragments of two mammoth ivory flutes were also found at the site of Höhle Fels, in Basal Aurignacian levels. In addition, a fragment of a mammoth ivory flute was found in Aurignacian layers at the site of Vogelherd. The exclusive appearance of mammoth tusk flutes in the Aurignacian Swabian Jura suggests the possibility that a distinct musical culture existed in that region during this era. It is notable that the mammoth ivory flutes appear at the outset of the Upper Paleolithic period. There is no evidence of an evolution in the sophistication of the manufacture of Upper Paleolithic flutes. Rather, the most sophisticated instruments, in terms of material and complexity of construction, appear only at the beginning

[60] Nicholas J. Conard, Maria Malina, and Susanne C. Münzel, "New Flutes Document the Earliest Musical Tradition in Southwestern Germany," *Nature* 460 (August 6, 2009): 738.

of the Upper Paleolithic period. Other than mammoth ivory flutes from the Aurignacian Swabian Jura, all other Upper Paleolithic flutes are fabricated from materials that are much easier to work, most predominantly the wing bones of birds.

Wing bones are naturally hollow, so there is a practicality in their use in the fabrication of flutes. However, there seems to be a symbolic significance in the choice of wing bones to create musical instruments. Wings enable birds to fly – to soar in the sky above and apart from the quotidian world. Because of their ability to fly, birds – and by extension, the flutes constructed from their bones – may have represented a transcendental spiritual world or dimension. Birds are frequently associated with the divine in mythological traditions. Goddesses and gods have assumed bird form or have been otherwise connected with birds in cultures throughout the world (as discussed in chapter 8). The prevalence of the association between the divine and birds lends credence to the hypothesis that the bird bone used to fabricate Upper Paleolithic flutes was symbolically significant. As they were constructed from wing bones, flutes may have functioned to establish human connection with the divine or to impart to humans the transcendence achieved by birds in flight.

Figure 3-1. Engraving on reindeer antler, Isturitz, Pyrénées-Atlantiques.

A closer examination of the flutes excavated at the site of Isturitz in the Pyrénées-Atlantiques, all fabricated from the wing bones of birds, may provide additional insight regarding the significance of the flutes' fabrication from such bones. Several representations of birds have been discovered at Isturitz. The visual depictions of birds at the site are significant because the images imply that birds were culturally, and most likely symbolically, important. Because the Isturitz flutes are all made of bird bones, the instruments reassert the symbolic significance of birds in the Upper Paleolithic culture of Isturitz. Among the depictions of birds at Isturitz is an

engraving of a bird on a curved fragment of reindeer antler (fig. 3-1).[61] The function of this object is unknown, as is the species of bird depicted. Passemard conjectured that the bird is either a partridge or a raven.[62] In the cave of Oxocelhaya, which is located directly below the cave of Isturitz and connected by a descending corridor, there is a decorated gallery in which there is an engraved bird's head.[63] The bird's head is accompanied by frontal views of the heads of three horses. In the same gallery, there is a painting composed of a horse, a horse's head, and a bison. In addition, a doe and the back of a horse are deeply engraved in a wall of the gallery.[64] These two engravings of birds in the caves of the Colline de Gastelu suggest that birds were important to the people who decorated cave walls and reindeer antlers with their images. It is possible that birds were important to the Paleolithic people who utilized the cave of Isturitz simply because the birds were an important source of food. However, one remaining artifact implies that birds held a certain symbolic significance. An engraving of what appears to be a man wearing a bird mask (fig. 3-2)[65] was discovered at Isturitz.[66] The man wearing the bird mask may have been engaged in ritual activity. His open mouth suggests that the man is

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[61] Emmanuel Passemard, "La Caverne d'Isturitz," *Revue Archéologique* V^e^ Série, tome XV (January - June 1922): 40.
[62] Ibid., 40.
[63] J.-D. Larribau and S. Prudhomme, "La Grotte Ornée d'Erberua (Pyrénées-Atlantiques). Note Préliminaire," *Bulletin de la Société Préhistorique Française* 80, no. 9 (1983): 280.
[64] Ibid., 280.
[65] René de Saint-Périer, "Quelques oeuvres d'art de la grotte d'Isturitz," *Bulletin de la Société Préhistorique Française* 32, no. 1 (1935): 71.
[66] Ibid., 71-72.

chanting or singing. The three oblique lines under the beak may represent sound issuing from his mouth. The man's arm, drawn with three curved lines, resembles a bird's wing rather than a human arm. There seems to be a human desire to become bird-like, perhaps an emulation of birds' ability to fly, implying a human desire to fly either literally or symbolically. It is evident that the ritual in which this man is engaged would have been strongly connected with birds, implying that birds were meaningful culturally. If this object is evidence that birds were imitated in rituals at Isturitz and that music in the form of chant or song accompanied these rituals, then it is not difficult to imagine that flutes constructed from bird bones might have been used in the same ritual context. In fact, the very sounds produced on the instruments may have functioned to imitate bird calls. In any case, visual representations of birds in the Upper Paleolithic art are relatively rare, and multiple depictions of birds at Isturitz imply their symbolic or cultural significance.

Figure 3-2. Engraving on antler, man wearing bird mask, Isturitz, Pyrénées-Atlantiques. (Image from René de Saint-Périer, "Quelques oeuvres d'art de la grotte d'Isturitz," *Bulletin de la Société Préhistorique Française* 32, no. 1 (1935): 71.)

FINGER-HOLES

The proof of human agency in the creation of finger-holes in artifacts from the Middle and Upper Paleolithic periods has been central in the debate regarding the function of these artifacts as flutes or whistles. If there is evidence that the holes were created by humans, as with the Höhle-Fels flute shown in figure 3-3,[67] then the artifact in question will be more readily accepted as a musical instrument. If there is no evidence that the holes are anthropic in origin but appear to result instead from carnivore damage

[67] Photograph by Daniel Maurer, Associated Press.

(puncture from a carnivore biting the bone) or other natural processes (damage to the bone due to overlaying debris at the site of excavation), then the artifact will generally not be regarded as a musical instrument. However, if holes were created in a bone – whether a reindeer phalange or bird bone – by carnivore damage or other natural processes, the possibility exists that the punctured bone was subsequently utilized by humans in the creation of sound with no further modification to the existing holes. In other words, there is no reason to discount the musical function of an artifact in the absence of evidence that the holes were intentionally created with human tools.

Figure 3-3. Höhle Fels Griffon vulture flute, held by Nicholas Conard.

Many of Upper Paleolithic flutes have a common four-hole construction, with two finger-holes on the upper portion of the instrument and

two finger-holes on the lower portion (see fig. 3-4).[68] The finger-holes are spaced unevenly, with a separation between the finger-holes on the upper and lower portions of the instrument. In addition, the finger-holes are typically not positioned symmetrically with respect to the vertical axis of the flute; all four finger-holes are closer to the lower end of the instrument than to the upper end.

The commonality of this four-hole construction is evidence that a tradition of constructing flutes in this prescribed manner existed. The piercing of holes in the bird-bone tube is evidence of the desire for precise pitches.[69] If specific tonal characteristics were the desired goal of this common construction, a further implication is that these tonal characteristics were fundamental in a shared musical culture.

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[68] Dominique Buisson, "Les Flûtes Paléolithiques d'Isturitz (Pyrénées-Atlantiques)," *Bulletin de la Société Préhistorique Française* 87, 10 (1990): 424.

[69] Michel Dauvois, "Les Témoins Sonores Paléolithiques Extérieurs et Souterrains," in *Sons Originels: Préhistoire de la Musique,* ed. Marcel Otte, proceedings of a conference at Liège, Belgium, December 11-13, 1992 (Liège: Université de Liège, 1994), 16.

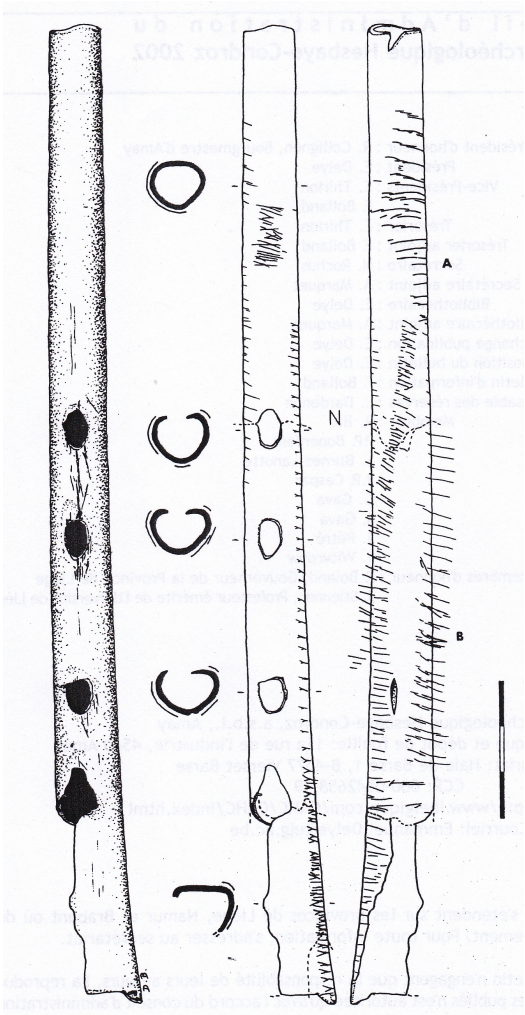

Figure 3-4. Archeologically complete flute from Isturitz, obtained by attaching several fragments (Musée d'Archéologie Nationale catalogue number Passemard IF 3α, 1914, 75252 A3) to an additional fragment of the flute (Musée d'Archéologie Nationale catalogue number Saint-Périer Ist III 1939, 83888). (Image from Dominique Buisson, "Les Flûtes Paléolithiques d'Isturitz (Pyrénées-Atlantiques)," *Bulletin de la Société Préhistorique Française* 87, 10 (1990): 424.)

Of finger-holes in flutes, Curt Sachs wrote, "…one feature lifts them to a level where they can compete with human voices and begin to sing; fingerholes, opened and closed, vary the pitch-producing length of the flute and allow it to play in melodies, brisk and longing, staccato, legato, by steps

and by leaps, in tender pulsations and foamy cascades."[70] To Sachs, the placement of finger-holes in flutes appeared to be "a strange abdication of the aural to the visual sense," as finger-holes in flutes tend to be either evenly spaced or arranged in two groups from one another by a larger space.[71] He noted, as well, that the finger-holes are often not symmetrically placed along the length of the flute, with the placement of all finger-holes closer to the distal end of the instrument than the proximal end. Sachs perceived the placement of finger-holes on flutes in this manner as strange in that the position of the holes seemed to be determined on the basis of visual rather than aural or musical criteria.[72] I suggest the opposite, however, that the finger-holes, particularly regarding Upper Paleolithic flutes, appear to be placed in a consistent, though not symmetrical, manner precisely because certain tonal or musical results were desired. Common elements in the positions of finger-holes can be explained in part by human anatomy. The separation of two groups of holes by a larger distance, for instance, is partially, if not entirely, the result of holding and playing the instruments with two hands. However, the ubiquity of Upper Paleolithic flutes with four holes, positioned and spaced in a common way, suggests that certain tones or intervals were the desired outcome of their placement in this manner. It is

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[70] Curt Sachs, *The Wellsprings of Music*, ed. Jaap Kunst (New York: McGraw-Hill Book Company, 1965), 99.
[71] Ibid., 99.
[72] Ibid., 99.

notable that the flutes were typically pierced with only four, rather than six, finger-holes. A number of Upper Paleolithic flutes are engraved with lines perpendicular to the vertical axis of the instrument, often between finger-holes and sometimes near finger-holes. The flutes may have been engraved with these lines when their surfaces were marked to indicate precise placement of finger-holes. The use of these markings in the manufacture of the flutes suggests, again, that the proper positions of the finger-holes were known to the makers of the instruments and were most likely culturally communicated and based upon shared musical criteria.

Feliks has proposed that the placement of finger-holes on Upper Paleolithic flutes shows evidence of the knowledge and use of φ,[73] the golden section.[74] The measurements may constitute evidence that the finger-holes were placed so as to produce desired pitches or a particular scale. He proposes that the measurements indicated between the notches and finger-holes on the flute are "evidence that the golden ratio and perhaps other mathematical constants were well-understood by our early ancestors throughout the Lower, Middle, and Upper Palaeolithic."[75] The

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[73] φ is the golden section, also referred to as the golden ratio or golden mean. φ is derived from the golden rectangle, which has longer side of length a and shorter side of length b. When this rectangle is placed adjacent to a square with sides of length a, a similar golden rectangle with longer side of length $a + b$ and shorter side of length a is formed. The golden section equals $\frac{a+b}{b} = \frac{a}{b} = \varphi$.

[74] John Feliks, "The Golden Flute of Geissenklösterle: Mathematical Evidence for a Continuity of Human Intelligence as Opposed to Evolutionary Change through Time," *Journal of Applied Mathematics* 4, no. 4 (2011): 157-58.

[75] Ibid., 161.

Geissenklösterle flute, with the positions of finger-holes perhaps indicated by measurements based upon the golden ratio (fig. 3-5),[76] is evidence of his broader theory that human cognitive abilities do not evolve. Feliks argues, rather, that human cognitive abilities have remained constant for tens of thousands of years, if not even longer, even for millions of years. Regarding the Geissenklösterle flute, he proposes that the instrument may be a mathematical instrument in addition to a musical one.[77]

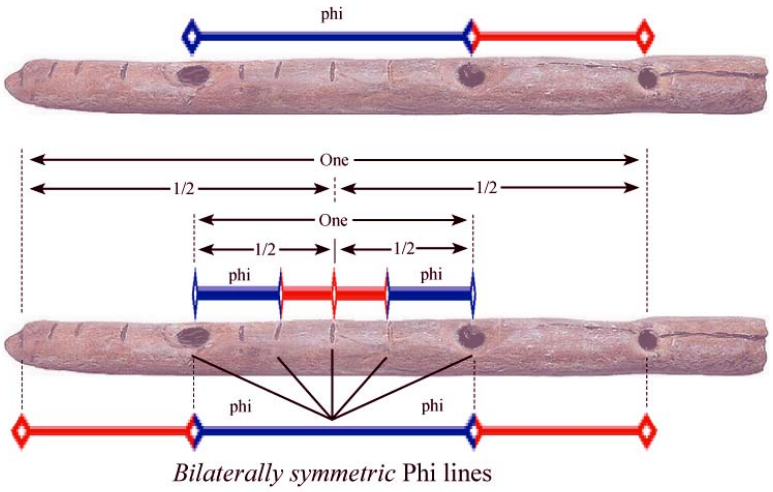

Figure 3-5. Geissenklösterle flute 1, shown with distances between linear engravings and finger-holes based on φ.

SURVEY

It is significant that Upper Paleolithic flutes are relatively scarce in the archeological record. While over two hundred artifacts classified as flutes, or putative flutes, dating to the Upper Paleolithic have been excavated, it must be

[76] Ibid., 159.
[77] Ibid., 161.

kept in mind that this era spanned a range of approximately 25,000 years. While other, more practical artifacts, such as lithic tools, survive in greater numbers, the relative number of flutes is small. Portable art objects, including sculpture and engraved artifacts, survive in similarly limited numbers. The relatively small number of flutes that have been discovered suggests that they were special objects, perhaps art objects of a sort, probably used by specialists within Upper Paleolithic culture. This, in turn, suggests that the flutes were utilized by these specialists within a similar special context, such as ritual. The notion that flutes were special objects is further supported by the sophistication of their construction, especially of the flutes created from mammoth ivory, coupled with evident difficulty of crafting instruments out of this fragile and not naturally hollow material. The details and distribution of the artifacts sets the foundation for addressing more divergent sources, such as engravings on the instruments, archeological contexts, aspects of Upper Paleolithic art, and ethnographic comparison, which will further elucidate the significance of the instruments in Upper Paleolithic culture.

Three archeological sites in the Swabian Jura, Geissenklösterle, Höhle Fels, and Vogelherd, are central because of the ages of the flutes discovered at these sites. The oldest uncontested musical instrument that has yet been excavated is a flute that was discovered in 2008 at the cave site of Höhle Fels

in the Swabian Jura of southern Germany.[78] This flute dates to the early Aurignacian period. A number of other flutes, fabricated from bird bone and mammoth ivory and likewise dating to the Aurignacian period, have been discovered at archeological sites in the Swabian Jura region (fig. 3-6)[79] – at Höhle Fels and the nearby sites of Vogelherd and Gleissenklösterle. Together, these are the oldest flutes that have been discovered thus far.

Flutes from archeological sites in the Swabian Jura have been found in basal Aurignacian levels, evidence that the instruments were created shortly after modern humans arrived in the area after migrating up the Danube Corridor.[80] Some of the earliest remains of anatomically modern humans in Europe were discovered at Vogelherd, providing further evidence for human migration into the Swabian Jura during the early Aurignacian period. The sites of Höhle Fels and Geissenklösterle are located in the Ach Valley, alongside the Danube. Vogelherd is located in the nearby Lone Valley, a neighboring valley of the Danube. All of these are important sites with long stratigraphies. The Swabian Jura is one of the richest provinces for finds from the Aurignacian era in central Europe.[81] The flutes found at these three sites

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[78] Conard, Malina, and Münzel, "New Flutes Document," 737.
[79] Michael Bolus, "The Cultural Context of the Aurignacian of the Swabian Jura," in *Trabalhos de Archeologia* 33. *The Chronology of the Aurignacian and of the Transitional Technocomplexes: Dating Stratigraphies, Cultural Implications*, eds. Francesco d'Errico and João Zilhão, proceedings of Symposium 6.1 of the XIVth Congress of the UISPP at University of Liège, Belgium, September 2-8, 2001 (Lisboa: Instituto Português de Arqueologia, 2003), 153.
[80] Conard, Malina, and Münzel, "New Flutes Document," 738.
[81] Bolus, "The Cultural Context," 153.

in the Swabian Jura establish the presence of a well-established musical tradition at the time modern humans colonized Europe, over 40,000 years ago.[82] Moreover, there is evidence from the art objects found at Geissenklösterle and Höhle Fels that cultural traditions were maintained throughout an extended period of time in the Swabian Jura.[83]

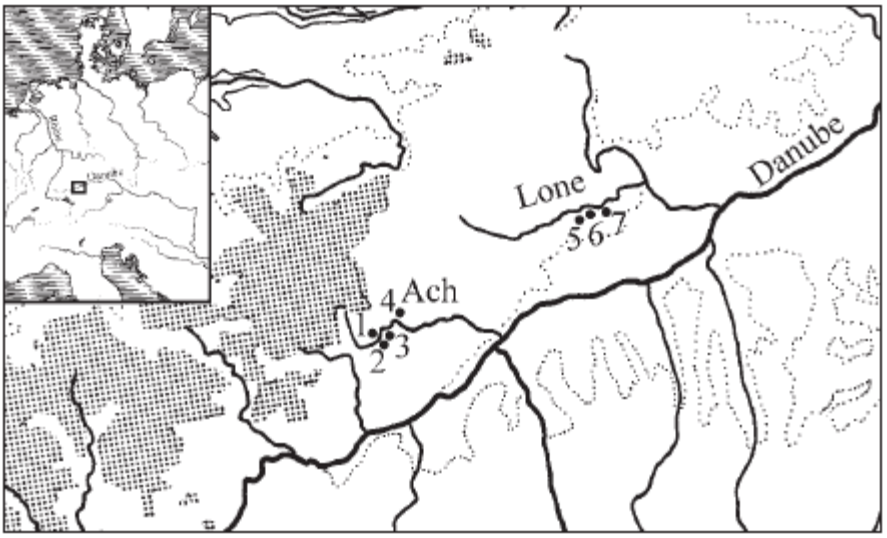

Figure 3-6. Upper Paleolithic sites in the Swabian Jura. Ach Valley: 1. Sirgenstein; 2. Höhle Fels; 3. Geissenklösterle; 4. Brillenhöhle. Lone Valley: 5. Bockstein (Bocksteinhöhle and Bockstein-Törle; 6. Hohlenstein (Stadel and Bärenhöhle); 7. Vogelherd.

During excavations in the summer of 2008, Nicholas Conard of the University of Tübingen and his colleagues discovered the oldest undisputed musical instrument to date. The flute, designated Höhle Fels flute 1 (fig. 3-7),[84] was found in twelve fragments in the basal Aurignacian deposits at the

[82] Conard, Malina, and Münzel, "New Flutes Document," 737.
[83] Bolus, "The Cultural Context," 161.
[84] Conard, Malina, and Münzel, "New Flutes Document," 737.

site of Höhle Fels. Eleven of the twelve fragments were found *in situ* over an area measuring about 10 cm by 20 cm and distributed over a vertical distance of 3 cm. The twelfth fragment was found during water screening. This reconstructed flute is by far the most complete of the flutes found in the Swabian Jura. It is a nearly complete flute fabricated from the radius of a Griffon vulture (*Gyps fulvus*). The surface and structure of the flute are well-preserved and reveal details of the flute's construction. The flute is an end-blown, notched flute with two deep V-shaped notches carved into the proximal end of the instrument. The musician blew into these notches, creating the sound by splitting the airstream. There are a total of five finger-holes, which are clearly anthropic in origin.[85] The distal end of the instrument is broken in the middle of the fifth, most distal finger-hole, and several centimeters of the instrument are missing from this end. There are groups of up to four finely incised lines next to four of the five finger-holes. Only the partially preserved distal finger-hole is not accompanied by incisions. The question arises as to the meaning of the incised lines. Are these remnants of the flute's construction, markings to measure the placement of finger-holes, or do they have symbolic significance? My own analytical speculations

[85] The finger-holes are symmetrical, and there is evidence that they were made with a stone tool.

regarding other markings on the flutes (i.e., those not in close proximity to finger-holes) suggest that these were symbolic in nature.[86]

A replica of a smaller, three-holed flute constructed from a swan bone found at the nearby site of Geissenklöstlerle revealed that four basic pitches could be played on that flute. The additional two finger-holes on this flute suggest a wider range of musical possibilities. Because the diameter of this flute is larger than that of the replicated swan bone Geissenklösterle flute, the pitches produced on this instrument would have been lower and closer in pitch to those produced on another of a larger diameter, one that was made of a mammoth ivory flute found at Geissenklösterle.[87] A Venus figurine, a representation of a woman sculpted in mammoth ivory (see fig. 6-7),[88] was found within a meter of this flute. The Höhle Fels Venus, as the sculpture is called, is the earliest sculpture that has survived in the archeological record to date. The significance of the discovery of the flute in close proximity to the figurine will be discussed in detail in a later chapter. The stratigraphy at Höhle Fels suggests that both the flute and the figurine date to the initial

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[86] See my discussion of possible meanings embedded in the markings in Chapter 4.
[87] Ibid., 737.
[88] Venus figurines are Upper Paleolithic statuettes of women, most of which emphasize the breasts, hips, and abdomen. They have been found primarily in Europe but were distributed from the Pyrénées to Siberia. Most are between 4 cm and 25 cm in height. They were carved from stone, mammoth ivory, and bone. Later statuettes were also made from clay and fired; these are among the oldest known ceramics. The first Venus figurine was discovered by the Marquis de Vibraye at Laugerie-Basse about 1864. He named the artifact the "Venus impudique." Similar statuettes have been called Venuses since that time. The association of Upper Paleolithic flutes with Venus figurines points to the connection between the flutes, eroticism, and fertility. The significance of Venus figurines in relation to flutes will be discussed further in Chapter 6. See also figures 6-29 and 6-30.

Upper Paleolithic occupation of the site, approximately 42,000 to 43,000 years ago. The archeological stratum in which the flute and figurine were found is relatively dense, with much flint-knapping debris, worked bone and ivory, faunal remains of numerous species, and burnt bone.

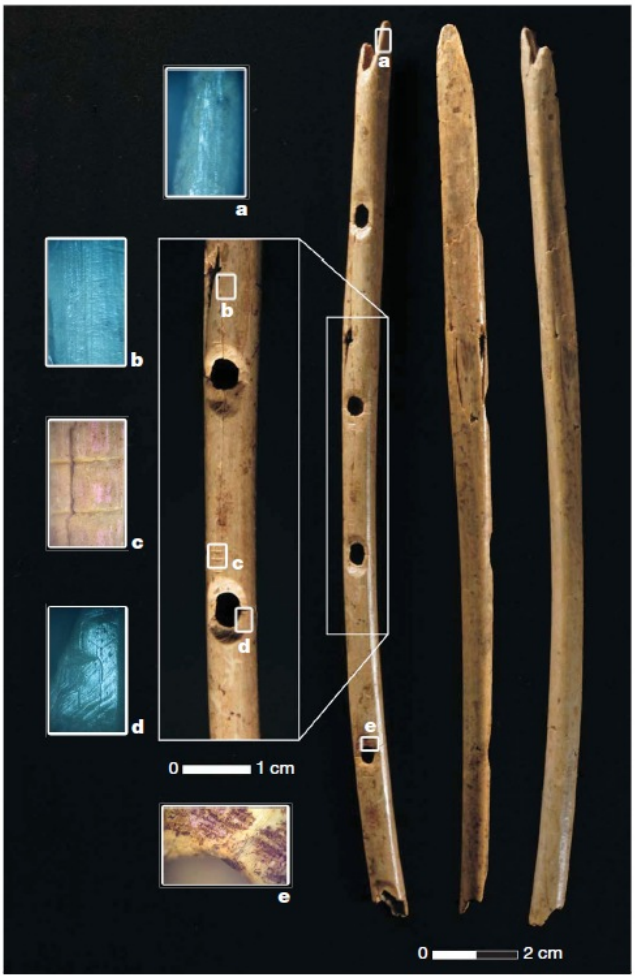

Figure 3-7. Flute 1 from Höhle Fels. Photomicrographs documenting striations and notches from manufacture and polish from use. The long axis of the micrographs is 2.8 mm long.

Two additional flute fragments, most likely of separate instruments, were found in basal Aurignacian layers at Höhle Fels during the 2008

excavations. Both of these fragments are of mammoth ivory. One of the fragments (11.7 mm long) is designated Höhle Fels flute 2 (see fig. 3-10).[89] The other fragment (21.1 mm in length) is designated Höhle Fels flute 3 (see fig. 3-10).[90] Both fragments were recovered during water screening but can be localized to a 0.25 square-meter area. These are the oldest flutes fabricated from mammoth ivory, a material known to fragment easily. Flutes of the desired diameters were carved out of the mammoth tusk. Then, the flutes were hollowed out. Striations were left on both the internal and external surfaces of these fragments in the process of their manufacture. It is notable that this sophisticated process of manufacture appears at the outset of the Aurignacian. The flute 2 fragment retains a portion of a finger-hole. The flute 3 fragment is incised with a series of fine lines on the outer surface and is engraved with a series of nine small notches on one of its edges. Because the width and thickness of the flute 3 fragment are larger than those of the flute 2 fragment, the fragments most probably pertain to two different musical instruments.[91] Höhle Fels flute 2 was found in a stratum above that in which flutes 1 and 3 were found. Thus, it is not as old as flutes 1 and 3. However, flute 2 is certainly over 35,000 years old.[92] Höhle Fels flute 3 was found in the deepest Aurignacian stratum, and the stratigraphy of the site (see fig. 3-8)[93] suggests that its age approaches 40,000 years old, dating to the initial human occupation of the site. All three flutes from Höhle Fels pre-date flutes

[89] Ibid., 738.
[90] Ibid., 738.
[91] Ibid., 738.
[92] Ibid., 739. New dates for the site suggest that the flute is may be 42,000 to 43,000 years old.
[93] Ibid., 739.

discovered at the neighboring site of Geissenklösterle, one mammoth ivory flute and two bird-bone flutes. Notable features of Höhle Fels include a hearth-like concentration of burnt bones, providing evidence of human settlement. Art objects found at the site include an ivory figurine depicting an animal head found at the transition between Aurignacian and Gravettian levels and a fragmentary ivory relief depicting what appears to be a bird from Aurignacian levels.[94]

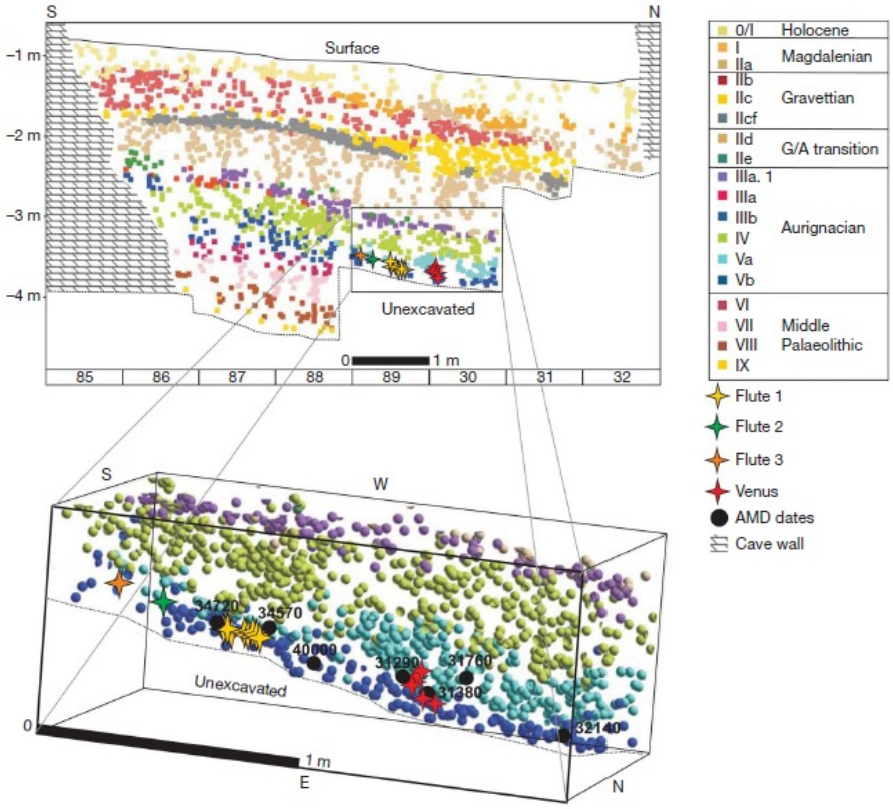

Figure 3-8. Stratigraphic positions of flutes 1-3 from Höhle Fels and associated radiocarbon dates. AMS, accelerator mass spectrometry (dates in non-calibrated years before present); Venus, Venus of Höhle Fels.

[94] Bolus, "The Cultural Context," 159.

At the neighboring site of Geissenklösterle three flutes dating to the Aurignacian have been discovered. The Aurignacian levels at Geissenklösterle can be divided into lower and upper Aurignacian levels. Thermoluminescence dating, in which the signals of an artifact that was either burned or exposed to sunlight in the past are used to calculate the age of the artifact, yielded dates of about 40,000 years ago for the lower Aurignacian level and 38,000 years before the present for the upper Aurignacian level at the site. Both Aurignacian levels yielded evidence of settlement at the site, most notably a fireplace in the lower Aurignacian level. Art objects, namely four ivory figurines, have been found only in the upper Aurignacian level of the site. All three flutes found at Geissenklösterle were in the upper Aurignacian levels. The first flute (a 12 cm segment), fabricated from the radius[95] of a swan, was found in twenty-three fragments. This flute has three finger-holes, which are all relatively small. A replica of the instrument was made, revealing that four principal pitches could be produced on the instrument. Three additional overtones could be produced with a quicker airstream.[96] The replica of the flute is played by directing the airstream obliquely across the proximal end of the instrument. The second flute, also made of bird bone, was found in seven fragments. It cannot be determined with certainty that the bone is that of a swan, but it is a wing bone from a bird of the same size. This flute is pierced with one hole. Two of the flutes are of bird bone and the third is of mammoth ivory. The two bird-bone flutes have been dated to 36,800 plus or minus 1,000 years before the present. Recent

[95] The radius is one of the principal bones in the wing.
[96] Conard, Malina, and Münzel, "New Flutes Document," 738.

findings resulting from the application of new dating techniques have sugggested that the Aurignacian era began up to 43,000 years ago in the Swabian Jura. This suggests that the flutes of this region, including the three from Geissenklösterle, may be older than had been determined by previous methods. The third flute (fig. 3-9),[97] fabricated from mammoth ivory, was found in thirty-one fragments. Along with the two bird-bone flutes, the latter flute was discovered in archeological levels dating from 37,000 to 30,000 years ago. Again, new dating techniques suggest that this flute may be older than previously thought. This flute (18.7 cm long) is pierced with three finger-holes. It would have been possible to play relatively complex melodies on the instrument. Friedrich Seeberger has made a replica of this flute in elder wood.[98] The replica, featured in *Cave of Forgotten Dreams*, is capable of playing anhemitonic pentatonic and diatonic melodies.[99]

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[97] Photo by H. Jensen, copyright Universität Tübingen.
[98] Achim Schneider, "Ice-age Musicians Fashioned Ivory Flute," *Nature* (December 17, 2004), accessed March 14, 2011, doi: 10.1038/news041213-14.
[99] Werner Herzog, Director, *Cave of Forgotten Dreams*, Creative Differences, History Films, Ministère de la Culture et de la Communication, 2010.

Figure 3-9. Mammoth ivory flute from Geissenklöstlerle.

Fragments of two flutes dating to the Aurignacian were discovered in 2005 at the site of Vogelherd in the Lone Valley, also in the Swabian Jura of Germany. Vogelherd has produced the largest Aurignacian assemblage in central Europe, and it appears that the cave was not utilized extensively in later Upper Paleolithic periods. Three fragments of a bird-bone flute, designated Vogelherd flute 1, and a single fragment of a mammoth ivory flute, designated Vogelherd flute 2 (see fig. 3-10, c),[100] were found in Aurignacian levels at the site. Although these four flute fragments are from reworked

[100] Conard, Malina, and Münzel, "New Flutes Document," 738.

contexts, it can be ascertained that they pre-date 30,000 years ago.[101] Although exact dates have not been determined for Aurignacian layers at Vogelherd, the Aurignacian levels have been dated from approximately 36,000 to 30,000 years before the present.[102] The fragments of the two flutes found at Vogelherd, therefore, may be between 30,000 to 36,000 years old. As with the Höhle Fels and Geissenklösterle flutes, the Vogelherd flutes may be up to 3,000 years older than previously thought, that is between 33,000 and 39,000 years old. The flute fragments from Vogelherd are housed in Tübingen along with those from Höhle Fels and Geissenklösterle.

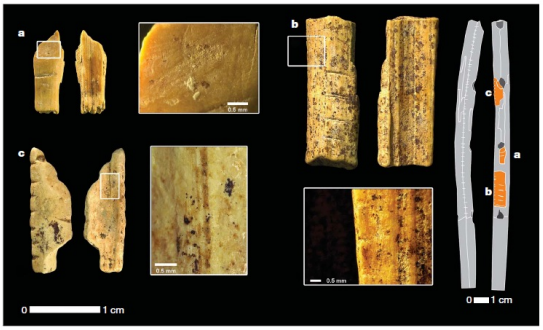

Figure 3-10. Fragments of ivory flutes from Höhle Fels and Vogelherd. Photos and micrographs documenting striations and notches from manufacture and polish from use. a) Höhle Fels flute 2, b) Höhle Fels flute 3, c) Vogelherd flute 2. The image on the right is a schematic superimposition of these fragments on the ivory flute from Geissenklösterle.

One flute dating to the Aurignacian (fig. 3-11) was discovered at the site of Isturitz in the Pyrénées-Atlantiques of France. The largest collection of flutes discovered at a single archeological site was excavated at Isturitz. The other flutes from the site date to later subdivisions of the Upper Paleolithic.[103]

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[101] Conard, Malina, and Münzel, "New Flutes Document," 740.

[102] Bolus, "The Cultural Context," 159.

[103] The Isturitz flutes are in the collection of the Musée D'Archéologie Nationale in Saint-Germain-en-Laye. Some of these are discussed by Dominique Buisson in his article "Les Flûtes Paléolithiques d'Isturitz (Pyrénées-Atlantiques)" in *Bulletin de la Société Préhistorique Française* 87, 10 (1990): 420-33. Beyond his references, I had the opportunity to study

The Aurignacian flute is the sole flute found in the Petite Salle. All of the later flutes were found in the Grande Salle, the second of the two principal chambers of the cave. The Aurignacian flute was made from the distal end of the right ulna of a large bird, most likely a diurnal raptor.

Figure 3-11. Aurignacian flute from Isturitz, Pyrénées-Atlantiques, Musée d'Archéologie Nationale, catalogue no. Isturitz 77 142 σ A1 sup. 1921.

In France, in addition to the Aurignacian flute excavated at Isturitz, artifacts, other putative flutes or artifacts accepted as flutes, have been found at the sites of Cro-Magnon, Abri Blanchard, and Les Bernoux. These include a single flute dating to the Aurignacian found at Abri Blanchard. The flute is approximately 30,000 years old and is constructed of bird bone. There are four holes on the posterior surface and two holes on the anterior surface. It appears that the four holes on the posterior surface were played with two

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additional flutes from the site housed at the Musée d'Archéologie Nationale. These include the artifacts with catalogue numbers Isturitz 83 886 Ist. II 1937 S.P., Isturitz 75 252 A2 IF 3 a 1914, Isturitz 83 889 Ist. IV 1952, Isturitz 75 252 A1 IF 3 b 21, Isturitz 83 889 Ist. IV 1946, Isturitz 83 889 Ist. IV 1933, Isturitz 83 889 Ist. IV 1935, and Isturitz 83 889 Ist. IV 1942.

fingers on each of the musician's hands, and the two holes on the anterior surface were played with the thumbs. An artifact that is possibly an Aurignacian flute was discovered at the site of Cro-Magnon in France. This artifact was classified by Morley as a flute or whistle, although Scothern questioned its functionality as a bone pipe or flute.[104] There are two artifacts found at the site of Les Bernoux in France that may be whistles dating to the Aurignacian. However, both the function of the artifacts as musical instruments and their ages are questionable. Morley suggests that at least one of the artifacts may have been a paint tube rather than a sound-producer.

A total of seven artifacts found near the village of Spy in Belgium may be Aurignacian flutes or whistles. Two specimens are fabricated from bird diaphyses. Their function as whistles is questionable. The remaining five artifacts are incised bone tubes of unknown origin. Because there are no finger-holes, it is difficult to prove that these artifacts functioned as musical instruments.

Other artifacts have been identified by certain scholars as Aurignacian flutes. I question previous claims that these artifacts are flutes, but mention

[104] Iain Morley, "The Evolutionary Origins and Archaeology of Music: An Investigation into the Prehistory of Human Musical Capacities and Behaviours" (PhD thesis, University of Cambridge, 2003), 267. The present discussion expands upon the details presented in the chart contained in the appendix to Morley's dissertation, updating the list with the addition of recently discovered artifacts and presenting new possible chronologies as suggested by the implementation of Uranium-series dating techniques.

them here briefly since they have been the subject of considerable debate.[105] These artifacts include two putative flutes from Bukovácer Höhle at Lokve in former Yugoslavia, a putative flute from the site of Istállóskő in Hungary, a putative flute from Liegloch in Austria, two putative flutes from the site of Potočka Zijalka in former Yugoslavia, and one putative flute from Salzofenhöhle at Toten Gebirge in Austria. These artifacts are fabricated not from the naturally hollow wing bones of birds nor from mammoth ivory, as are definitive Aurignacian flutes. Rather, these artifacts are bones of cave bears, which are not naturally hollow bones suitable for the manufacture of flutes. The first artifact from Bukovácer Höhle, for instance, is the curved rib of a cave bear, and the artifact from Istállóskő is the femur diaphysis of a juvenile cave bear. The Liegloch artifact is the tibia of a juvenile cave bear, and the two artifacts from Potočka Zijalka are a cave bear mandible and a cave bear femur. Likewise, the Salzofenhöhle artifact is the femur of a cave bear. That these artifacts are cave bear bones does not alone disprove that they are flutes. However, in all cases, there is also lack of evidence that the holes in the artifacts are anthropic in origin. There are no traces of tool usage in the creation of the holes. Thus, the possibility that the holes have been

[105] As referred to by Morley, "The Evolutionary Origins," 57. In her 1992 dissertation, Paula Scothern concludes that the Aurignacian artifacts from Istállóskő, Bukovac, and Potocka Zijalka are most likely not flutes or sound-producers. Rather, the modifications (i.e., holes) made to these bones appear to be the results of natural process, such as carnivore or other damage. There is no evidence that the modifications were either intentional or anthropic in origin. Paula M. T. Scothern, "The Music-Archaeology of the Palaeolithic Within its Cultural Setting" (PhD thesis, University of Cambridge, 1992).

created by carnivore damage or other natural processes has not been ruled out. The teeth of carnivores could certainly have punctured the bones in attacking the cave bears or in gnawing on the bones in an attempt to extract the marrow. These bones have been punctured. One Bukovácer Höhle artifact has three holes; the other has one. The Istállóskő artifact has three holes, and the Liegloch artifact has four. The mandible from Potočka Zijalka is pierced with three holes, while the femur from Salzofenhöhle is pierced with one. However, the mere existence of holes in these bones does not constitute proof that they are flutes. Additionally, there are no engravings or other markings on the artifacts that would suggest that they were created anthropically and subsequently utilized as musical instruments.

Another Aurignacian artifact, although constructed of bird bone and classified as a pipe by Morley, may or may not be a musical instrument. This artifact was found at the site of Saint-Avit-Sénieur, in the Vallée de la Couze, in the Dordogne region of France. The putative pipe is engraved with notches on both sides. The artifact is most likely not a pipe or flute. It is unclear from available sources whether or not this artifact is pierced with holes.

Some flutes have been classified as Perigordian, or Gravettian/Perigordian when the approximate age of the instrument is known, but there is some question regarding the culture to which it pertains. The Perigordian culture encompasses both the Châtelperronian and Gravettian cultures, based upon similarities in their lithic industries. More precisely,

Gravettian tools are thought to have evolved from much earlier Châtelperronian tools, which appear in the archeological record just above Mousterian layers. The Châtelperronian culture would, therefore, be contemporary with Aurignacian culture, and the Perigordian culture would thus be a very long-standing one, enduring for approximately 18,000 years. As discussed previously, the Perigordian culture is not universally accepted as a valid cultural subdivision. Some archeologists maintain that several distinct Upper Paleolithic cultures form a contiguous tradition, which is termed Perigordian. These include the Châtelperronia, Gravettian, and proto-Magdalenian cultures. Others argue that no archeological site has yielded evidence of continuous Perigordian occupation.[106] However, flutes classified as Perigordian have been excavated in France and Belgium.

The majority of flutes classified as Perigordian have been found in France. These include a flute fragment (6.0 cm long) excavated at Abri Lespaux in Gironde and currently in the Collection Yovan Krtolitza in Bordeaux. The flute dates to 28,000 to 22,000 years before the present. It is fabricated from a bird bone and is pierced with three finger-holes. There is one intact, central finger-hole. There are two incomplete holes at the proximal and distal ends of the bone. All of the finger-holes show evidence of regularization and tool use and are clearly anthropic in origin. A second flute

[106] The most widely accepted cultural and temporal divisions of the Upper Paleolithic era are the Aurignacian, Gravettian, Solutrean, and Magdalenian.

dating to the Perigordian, which is in the Palaeolithic and Mesolithic Collections at the British Museum, was discovered at the site of Les Roches at Sergeac. This bone flute is pierced with two holes, and it may have been played by blowing either from one end or across one of the two holes. If the flute were played by blowing across one of the holes (i.e., transversely), one or both ends of the instrument would have been blocked with the fingers or artificial plugs made of leather or resin. It would have been possible to produce one or two notes by playing the flute in this manner.[107] It would have been possible to obtain at least three pitches by playing the instrument as a vertical flute, and it is probable that more than three pitches could have been produced by overblowing. Another Perigordian flute was discovered at the site of La Roque, also called La Roque de Saint-Christophe, at Pas de Miroir in the Dordogne. This bird-bone flute is more complex than the one from Les Roches, in that it is pierced with five holes on the front face and two holes on the back. It may have been played as a vertical flute, blown across the end of the instrument. If the upper portion of the flute were partially blocked with resin or other material, it would have been played as a duct flute.[108] This flute, in the collections of the British Museum, resembles 30,000 year-old

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[107] "The British Museum: Explore/Highlights," accessed May 4, 2011, http://www.britishmuseum.org/explore/highlights/highlight_objects/pe_prb/b/bone_flutes.aspx.

[108] The duct flute, also referred to as the block and duct flute, has a narrow duct formed by an object inside the body of the instrument that partially obstructs the airflow. The airstream is thus directed through the duct toward the splitting edge. (The sound of all flutes is created when the airstream is split.)

flutes made from swan wing bones that have been excavated at the site of Isturitz in the Pyrénées-Atlantiques. However, the rock shelter at La Roque, which contains 30,000 year-old deposits, was disturbed more recently in the Middle Ages. As a result, the age of this artifact remains uncertain.[109] The flute appears to be Perigordian. However, the possibility that it is a Medieval flute cannot be ruled out, especially as bird bones were commonly employed to construct flutes even in the Middle Ages. Yet another flute dating to the Perigordian was found at Abri Laraux at Lussac-les-Château in Vienne. This flute, at the Musée de l'Homme in Paris, is approximately 19,000 years old, which corresponds to the Upper Perigordian. Another flute, most probably dating to the Perigordian, was found at the site of Pair-non-Pair in Gironde. However, the precise age of this artifact is uncertain. Although the flute dates from 28,000 to 22,000 years before the present, it may pertain to either the Upper Perigordian or the Gravettian period. This bird-bone flute (12.7 cm long) has three finger-holes, two of which are intact.

Perigordian flutes discovered in Belgium include one flute found at Goyet and another discovered at Maisieres Canal. The flute (10.5 cm long) excavated at Goyet, housed at the Institut Royal des Sciences Naturelles de Belgique, is made from a bird bone and dates from 28,000 to 22,000 years ago. It has a definite, intact crescent-shaped sound-window and is a block and duct flute, notably the earliest block and duct flute that has been discovered.

[109] Ibid.

This 10.5 centimeter-long artifact has the first example of an intentionally produced hole designed to direct the airstream against a block inside the bone to create a vibrating air column. The block has not been preserved in this artifact and might have been made of wood or resin. A preserved resin block found in a flute from the site of Dolni-Vestonice in Moravia suggests that the block in the Goyet flute may also have been made of resin. There is some question regarding the age of this flute; it has been alternately classified as Gravettian and Perigordian. It is constructed from a limb bone of an undetermined mammalian species. Both epiphyses of the bone are sawn off. There are two holes, one at the end of one side and the other toward the center of the opposite side, and there is evidence that at least one of the holes is anthropic in origin. A reconstruction of the instrument produces the pitch B. The Perigordian flute (4.2 cm long) discovered at Maisieres Canal, currently housed at the Institut Royal des Sciences Naturelles de Belgique, has been classified as either a bone pipe or a whistle by Morley.

Numerous flutes have been discovered from the Gravettian culture (28,000 to 22,000 years before the present), which followed the Aurignacian in the most commonly accepted sequence of Upper Paleolithic cultures. Flutes identified as Gravettian have been found in present-day France, the Czech Republic, Poland, Germany, and the Ukraine. The largest assembly of flutes from this period were excavated at the site of Isturitz in the French Pays Basque.

Figure 3-12. Gravettian flute from Isturitz, Pyrénées-Atlantiques, Musée d'Archéologie Nationale, catalogue no. Isturitz 75 252 A3 Ist. 1939 + IF 3 ∝ 1914 accord.

The majority of the flutes that have been found at the cave site of Isturitz in the foothills of the Pyrénées are Gravettian. Although the Isturitz flutes range in age from the Aurignacian to the Magdalenian, ten of the more than twenty flute fragments found at the site date to the Gravettian period. All of the Gravettian flutes were found in the Grande Salle, the larger of the two principal chambers within the cave. All of the Gravettian flutes from this site were fabricated from bird bones. Among the Gravettian flutes excavated at Isturitz is one that is almost complete (fig. 3-12). This flute was found in four separate fragments – one excavated in 1914 and the remaining fragments excavated in 1939. The fragments were later joined by Dominique Buisson while working with the Isturitz flutes at the Musée d'Archéologie Nationale. Buisson surmised that a pentatonic scale was played on this flute, which has four finger-holes.[110] Another of the Gravettian flutes from the site is nearly archeologically complete. This flute (fig. 3-13) was originally found in three

[110] Lucie Rault, *Instruments de Musique du Monde* (Paris: Éditions de La Martinière, 2000), 34.

fragments during excavations in 1939. Two complete finger-holes are extant and vestiges of two additional finger-holes are visible on either side of these. Thus, it appears that a four-hole construction may have been common in the case of the Isturitz flutes. The surface of this artifact shown in the illustration below as well as the opposite surface are engraved with curved parallel striations.[111] All of the Gravettian flutes from Isturitz are in the collection of the Musée d'Archéologie Nationale in Saint-Germain-en-Laye.

Figure 3-13. Gravettian flute from Isturitz, Pyrénées-Atlantiques, Musée d'Archéologie Nationale, catalogue number Isturitz 86 757 Ist. IV 1939.

There are two other putative flutes dating to the Gravettian period that have been found in France. These artifacts were excavated at the site of Pair-

[111] As discussed further in a subsequent chapter, these engravings may have either been decorative or engendered with symbolic significance. Alternatively, they may have facilitated the attachment of fiber or tendon or contained pigment used to decorate the surface of the instrument.

non-Pair in Gironde. The first is a pierced epiphysis of a reindeer bone (8 cm in length). Although it is possibly a flute, it has been suggested that this artifact is, in fact, a haft (spear handle) rather than a flute. The second Gravettian artifact from Pair-non-Pair is also a putative flute, although the function of this artifact as a sound-producer is questionable as well.

A single putative flute dating to the Gravettian period has been found in Germany. This artifact (10.4 cm long) is a bone tube with engravings, which was discovered at Wildschauer. According to Scothern, it is comparable to artifacts discovered at Spy in Belgium, and thus, most likely a musical instrument.

A number of flutes dating to the Gravettian have been discovered in eastern European countries. One Gravettian flute (8 cm long) was discovered at the site of Mammutova in Poland. Although the artifact, an engraved bird bone, is possibly a whistle or flute, its use as a musical instrument has been questioned due to the absence of finger-holes in the bone. The function of such bird bones without holes, which are prolific in the archeological record, is difficult to determine. Another putative Gravettian flute was found at Moldova in Ukraine. However, there are questions regarding the age and function of the artifact. The holes may have resulted from natural processes or may be the result of human agency. Additionally, a total of twelve putative flutes or whistles dating to the Perigordian period were found at the site of Pekarna in Moravia. Two of the artifacts are constructed from the epiphyses

of bird bones. These may be flutes or whistles, and another Gravettian artifact from Perkarna may be a whistle fabricated from the bone of a chamois, although the musical function of this artifact is dubious. A reindeer metatarsal dating to the Gravettian may be another whistle found at the site, although again its function as a sound-producer has been questioned. The hollow ulna of a Greylag goose found at the site and also dating to the Gravettian may be another whistle despite uncertainty regarding the function of the artifact as a musical instrument. Another Gravettian artifact from Pekarna is a putative whistle (14 cm long), which produces the primary pitch A. Six additional putative flutes or whistles dating to the Gravettian were excavated at Pekarna. Although these six artifacts have been subjected to acoustical studies, it is difficult to prove that they functioned as musical instruments.

Flutes pertaining to the Solutrean culture (approximately 22,000 to 17,000 years ago) have been discovered in present-day France and Spain. Putative flutes dating to the Solutrean period have also been excavated in Portugal and Austria. While flutes dating back to the Gravettian era are numerous in the archeological record, there is a surprising scarcity of flutes that date to the Solutrean period. Fewer than ten flutes have been excavated from this period.

The majority of Solutrean flutes have been discovered in France. Four artifacts from the archeological site of Badegoule in the Dordogne region dating to the Solutrean period are possibly flutes or pipes. One of the artifacts

is fabricated from a reindeer radius. There is a hole on the ventral surface as well as two holes on the proximal and distal epiphyses that were clearly intentionally bored. The function of the artifact as a musical instrument is questionable. Although there is evidence of intentionally bored holes, it is difficult to determine whether the artifact was a musical instrument. The second artifact from the site dating to the Solutrean is possibly a flute as well, fabricated from a reindeer radius like the first artifact. This object is fragmentary with one hole at the distal end and was found in the same archeological level as the previously mentioned flute. According to Scothern, both of these artifacts must be rejected as musical instruments. At Badegoule, there were also two pipes discovered, fabricated from reindeer antler, which date to the Solutrean period. These two artifacts are perforated longitudinally with small holes. However, their function as musical instruments is difficult to determine. Two flute fragments from the site of Isturitz in France date to the Solutrean period. All of these were found in the Grande Salle, the largest of the two principal chambers in the cave, and all of them are fabricated from bird bones. They are presently in the collection of the Musée d'Archéolgie Nationale in Saint-Germain-en-Laye. In addition to the artifacts from the sites of Isturitz and Badegoule, several artifacts from Solutrean levels at the site of Le Placard may have functioned as flutes or whistles.

One artifact which is possibly a Solutrean flute or whistle has been excavated in Spain at La Riera cave. It has been dated to the Upper terminal

Solutrean (ca. 16,900 years ago) with Carbon-14 dating techniques. This artifact, made from the tibia of a red deer, is fragmentary, with only half of the bone remaining. Although the tibia, which is not hollow as are the wing bones of birds, is an unusual material from which to construct a flute, it appears that the artifact may have functioned as a small block and duct whistle.

Two flutes excavated in Portugal and Austria may date to the Solutrean period. The dates of both of these artifacts, however, are uncertain. The first of these is a flute fragment (8.3 cm in length) found at the archeological site of Liceia in Portugal, which most likely dates to the Solutrean period, although the age of the artifact has been questioned. The fragment is pierced with two finger-holes. The second is a flute, approximately 19,000 years old, that was found at Grubgraben bei Kammern in Austria. Although the stratigraphy at the site is not clear, 19,000 years before the present corresponds with the Upper terminal Solutrean period. This artifact, presently in the collection of the Urgeschichtliches Museum, is constructed from the right tibia of a medium-size ungulate, most probably a reindeer. The extant fragment (16.53 cm in length) is broken both distally and proximally and is pierced with three finger-holes.

The Magdalenian culture was the final one in Upper Paleolithic Europe, spanning from approximately 18,000 to 10,000 years before the present. Innovations in hunting techniques as well as flourishing artistic

traditions, which are reflected in the cave paintings and mobiliary art, characterize this culture. Numerous flutes dating to the Magdalenian period have been discovered at archeological sites across Europe, including France, Austria, Germany, Spain, the Czech Republic, and Ukraine.

It appears that the Magdalenian culture first appeared in France, since all of the earliest Magdalenian sites are found there. Moreover, the overwhelming majority of Magdalenian flutes have been discovered throughout France. These include a pipe constructed from bird bone, which was discovered at the site of Fontarnaud in the Gironde. This bird-bone pipe dates to the late Magdalenian period. The surface of this artifact (7 cm in length) has clear cut-marks, evidence that the flesh surrounding the bone was intentionally removed. However, in the case of this artifact, from the Ferrier Collection, the absence of finger-holes makes it difficult to prove that it was definitely utilized as a musical instrument. Another flute fragment (6.8 cm long) was found in Upper Magdalenian levels at the site of Garrigue. This artifact, from the collection of the Musée d'Aquitaine in Bordeaux, has two finger-holes. The surface of the instrument shows extensive traces of wear, though the mode of sound production is not evident. With no evidence of more sophisticated means of sound production, it appears that it was an end-blown flute. The tapered holes, clearly anthropic in origin, suggest they were created with a burin-like tool. There are also three flutes or fragments from

the site of Isturitz that date to the Magdalenian period. All of these were found in the Grande Salle, and all are fabricated from bird bone.

A total of thirteen artifacts from the site of Le Placard in France have been identified as pipes or flutes dating to the Magdalenian period.[112] Thus, Le Placard ranks second only to Isturitz in terms of the number of Upper Paleolithic discovered at the site. However, the artifacts recovered from Le Placard have thus far received far less attention. The relatively large number of flutes, all found in Magdalenian levels at the site, is significant regarding the function of Upper Paleolithic flutes. Almost all of these artifacts have been dated to the Mid-Magdalenian (ca. 18,000 to 12,000 years ago). Two of these are flutes made of an eagle bone, excavated from Magdalenian layers IV-VI, which correspond to 15,000 to 13,000 years before the present. The first eagle-bone flute is engraved with a series of parallel striations creating arched lines. There is a notch that served as the blow-hole on the posterior surface of the instrument (14.0 cm long). According to Scothern, this artifact is undoubtedly a musical instrument. The second eagle-bone flute (11.0 cm long), which was found in fragments, contains engravings on its surface resembling those on the previously mentioned artifact. It lacks a notch or sound-window. However, it is typologically similar to the first artifact and is therefore generally accepted as a flute. The lack of a sound-window or notch may be due only to the fragmentary nature of the artifact. Both of these

[112] A pipe may be classified as a flute without finger-holes.

artifacts were originally in the Piette Collection at the Musée des Antiquités Nationale in Saint-Germain-en-Laye and are currently at Poitiers University. In addition to the eagle-bone flutes, five Magdalenian notched flutes have been recovered from Le Placard. All of these notched flutes are in the collection of the Musée d'Archéologie Nationale in Saint-Germain-en-Laye. The materials from which these additional artifacts were constructed are unknown. The exact dimensions of the first of the notched flutes are unknown. The second (7.2 cm long) contains a blow-hole, the bore of the instrument measuring 0.8 cm. The surface of this flute is deeply engraved. The surface of the third notched flute (8.0 cm long) is also deeply engraved, and the instrument has a blow-hole. A sixth flute from the site is also a notched flute, which again dates to the Mid-Magdalenian. The surface of the fourth notched flute (11.0 cm long) is similarly engraved, and this flute also has a blow-hole. The fifth notched flute (9.4 cm in long) also has a deeply engraved surface and a blow-hole. In addition to the two eagle-bone flutes and the five notched flutes, four Magdalenian bone pipes were excavated at Le Placard. Although these four pipes are generally considered to date to the Magdalenian period, there is some question regarding their ages. These bone pipes are of unequal length and may have been components of a panpipe. There is no evidence that the pipes were attached to each other, weakening the hypothesis that they formed a panpipe. The bone pipes are, however, typologically similar to the constituent parts of a panpipe. In addition to the

more complete artifacts, two flute fragments dating to the Magdalenian were found at Le Placard. Both of these are in the collection of the Musée d'Archéologie Nationale in Saint-Germain-en-Laye. The first fragment (8.4 cm long) has a blow-hole and is pierced with two finger-holes. Scothern notes that this fragment resembles the Gravettian flutes found at Isturitz. It is difficult to determine with certainty that the second fragment (with extant length 7.3 cm) functioned as musical instrument, due to the fragmentary nature of the artifact.

Four bone pipes, which bring to mind the similar collection of four pipes discovered at Le Placard, were found in Magdalenian levels at the site of Le Roc de Marcamps in the Gironde. These artifacts, which are in the Collection Maziaud at the Musée de l'Aquitaine in Bordeaux, possibly functioned as flutes, and the discovery of a second collection of four pipes lends credence to the hypothesis that, in both cases, these were component parts of syrinxes. All of the pipes from Le Roc de Marcamps are constructed of bird bone and were found in Magdalenian layers V-VI, and all of these artifacts (0.7 cm, 4.9 cm, 4.3 cm, and 3.7 cm in length) have blow-holes. The position and form of the blow-holes in these four artifacts suggest that they were either block and duct flutes or tongue duct flutes.[113] They may also have been component parts of a syrinx.

[113] Tongue duct flutes, also referred to as tongue and duct flutes or lip and duct flutes, are flutes in which the player's tongue substitutes for the block of the block and duct flute. The

There is a single flute fragment dating to the Magdalenian period that was excavated at the site of Les Roches at Sergeac in the Dordogne. This artifact (11.5 cm long), in the collection of the British Museum, is pierced with two finger-holes centrally located on the posterior surface. There is no blow-hole and no other extant evidence of the mode of sound production, most likely due to the fragmentary nature of the artifact. It is evident, however, that the finger-holes were deliberately created. Additionally, a single Magdalenian flute fragment dating to the Upper Magdalenian was excavated at the site of Lussac. Only the upper section of the artifact (extant length 5.9 cm), currently housed at the Musée de l'Homme, has been recovered. Two putative flutes or whistles from the site of Mas d'Azil date to the Magdalenian period. The first of these (8.5 cm long) is a notched flute. The second artifact from Mas d'Azil (4.5 cm in length) is either a pierced whistle or a haft (spear handle) constructed from a reindeer bone. A single Magdlanenian flute was also discovered at the archeological site of Pas du Miroir in the Dordogne. This flute, constructed from the limb bone of an undetermined but almost certainly mammalian species, is pierced with four holes on its anterior surface and two holes on its posterior surface. There is a notch at one end of the artifact, indicating that it functioned as a notched flute. Two putative Magdalenian flutes were discovered at the site of Peyrat near

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player's tongue is pushed into the open end of the flute so as to create a narrow opening that directs the airstream between the tongue and the inner wall of the flute.

Terrason in the Dordogne. The first artifact was found in a Magdalenian IV layer. The artifact is fragmentary (extant length of 6.0 cm) and is constructed from a bone of an unidentified mammalian species. There are four holes, two of which are at the broken ends of the artifact. Scothern hypothesized that this artifact is typologically a transverse flute, although this is difficult to confirm.

A number of artifacts found in France are possible flutes/whistles, although there is absence of definitive proof that these functioned as musical instruments. Four bird-bone fragments were found at the archeological site of Raymonden. These fragments (measuring 3.9 cm, 4.1 cm, 13.2 cm, and 14.7 cm in length) were found in Magdalenian levels IV-VI. There are definite cut-marks on the fragments, indicating that the flesh was removed from the bones in the creation of the artifacts.[114] These fragments, which are in the collection of the Musée du Périgord in Périgueux, are possibly fragments of bone flutes or whistles. Another putative flute/whistle was discovered in Final Magdalenian levels at the site of Rond du Barry. This artifact is fabricated from the radius of a Whooper Swan (*Cygnus cygnus*), and there is evidence that the object was polished at both ends. The surface is engraved with fine lines and hatched oval designs. Although it is certain that the artifact has been deliberately worked, it may have functioned as either a musical instrument (flute/whistle) or had some other nonmusical function (e.g., storage

[114] The cut-marks are not patterned striations and do not appear to have been intentionally engraved on the surface of the artifact.

container). Another putative flute dating to the Magdalenian period was discovered at the site of Laugerie-Basse at Les Eyzies-de-Tayac. Although the artifact definitely dates to the Upper Paleolithic period, there is some dispute regarding the exact age of this instrument (i.e., its appropriation to the Magdalenian). There are no clear engravings or cut-marks on this artifact, and it is therefore difficult to prove, as with the Raymond and Rond du Barry artifacts, that it was a sound-producer.

Several flutes dating to the Magdalenian period have been excavated in Spain as well. A flute or whistle from the site of Bolinkoba in Spain appears to date to the Magdalenian period. Its age is dubious, however, and this artifact may date to the Neolithic period rather than the Magdalenian. The artifact has a central blow-hole, and thus, resembles several later instruments. An artifact discovered at La Paloma in Asturias may be a Magdalenian flute or whistle. The artifact is a bone, perforated through both surfaces. It has a very narrow bore, and according to Scothern, it is unlikely that the object functioned as a musical instrument due to the narrowness of the bore and the perforations on both of its surfaces, rather than on a single side. There is uncertainty regarding the age of the artifact, with the possibility that it dates to the Neolithic period rather than the Magdalenian. Additionally, one putative flute dating to the Magdalenian period (Lower Magdalenian) was discovered at Cueva de Rascaño, and another, dating to the Magdalenian period (Lower Magdalenian), was discovered at Cueva de la Güelga in Asturias. Two further

specimens, putative flutes dating to the Magdalenian period (Lower Magdalenian), were discovered at the site of Cueva del Castillo.

Magdalenian flutes have been excavated in Austria, Germany, Moravia, and Ukraine in addition to France and Spain. Three Magdalenian flutes have been found in Austria. These include a flute or whistle dating to the Magdalenian period discovered at the site of Gudenushöhle. This small artifact (4.0 cm in length), housed at the Natural History Museum in Vienna, is punctured with a central hole. Two putative flutes from the Magdalenian period were found at the archeological site of Lieglhöhle in the Enns Valley. Although there is some question regarding the exact age of the first artifact, it certainly dates to the Final Paleolithic, and almost certainly pertains to the Magdalenian period. This artifact is fabricated from the tibia of a cave bear, which is pierced with a total of four holes, two at either end. The second putative flute from the site, also fabricated from the bone of a cave bear, is pierced with a single finger-hole. A single putative flute from the Magdalenian period has been excavated in Germany. This artifact, discovered at the site of Padtberg in Munzingen, is fabricated from the bone of an Alpine hare, and it has been proposed that the artifact functioned as a signal pipe. A single Magdalenian flute or whistle was found in Moravia. This artifact, excavated at the site of Pekarna, is a bird bone (7.0 cm in length) with sawn holes, which has been Carbon-14 dated to approximately either 12,940 or 12,670 years before the present. Both dates fall clearly within the range of the

Magdalenian era. In Ukraine, two putative Magdalenian flutes were discovered at the site of Molodova V. The first of these objects is constructed from either elk horn or reindeer or moose antler and has been dated to approximately 17,000 years before the present with Carbon-14 dating techniques. This large artifact (i.e., 21 cm in length), which Morley classifies as either a flute or whistle, has four holes on the anterior surface and two holes on the posterior surface. The holes are small and randomly placed, and thus are questionable as finger-holes. The function of the artifact as a musical instrument is therefore dubious. The exact age of the second artifact from Molodova V is unclear. One Carbon-14 date given for the artifact is approximately 11,900 years before the present, but a second Carbon-14 date of approximately 12,300 years before the present has been given for the same artifact. Both dates correspond with the Magdalenian, however. There are seven holes on the anterior surface of the artifact and two holes on its posterior surface. The holes, however, are too small to function as the finger-holes of a flute according to Scothern, and there is thus some question regarding the object's functionality as a musical instrument.

A number of flutes cannot be accurately placed within the more specific subdivisions of the Upper Paleolithic – the Aurignacian, Perigordian, Gravettian, Solutrean, and Magdalenian periods. These include artifacts found in France, Moravia, Poland, Belgium, Switzerland, and Hungary. In some cases, an artifact is described according to another classification scheme,

as in the case of artifacts classified as Châtelperronian. In other cases, only vague information regarding the precise age of an artifact is known, such as its pertinence to either the early or late Upper Paleolithic era. Such artifacts excavated in France include a flute from the site of Roque-Saint-Christophe constructed from bird bone, with four holes on the anterior surface and two on the posterior surface of the artifact. This flute, currently in the collection of the British Museum, is Upper Paleolithic, but there is no further information regarding its age. Similarly, a bone pipe from the Grotte de Gourdan in France can be dated only to the Late Upper Paleolithic. There are definite cut-marks on the surface of the artifact. However, it is difficult to prove that the artifact is a musical instrument since there are neither finger-holes nor other evidence that the artifact functioned as a sound-producer. In addition, a putative flute that has been attributed to the Châtelperronian period, which immediately followed the Middle Paleolithic era, was excavated at the site of Arcy-sur-Cure in Yonne.

In Moravia, four bone pipes found at the site of Dolni-Vestonice date to the Upper Paleolithic, but their exact ages are not know. These tubes, made from red deer metacarpals, vary in length. One of them has a resin plug still in place. The remaining resin plug suggests that the block and duct method of sound production was employed, perhaps within a set of panpipes constructed from the four pipes. Two putative flutes or whistles were also found at the site of Pekarna. These two artifacts, constructed from bird-bone epiphyses,

can be dated only to the Upper Paleolithic, without further specificity. Although these artifacts may have functioned as flutes or whistles, Scothern has suggested that these two artifacts were refuse rather than musical instruments. A flute fragment found at the archeological site of Horodnica in Poland, dates to the Upper Paleolithic, although its precise age in not known. There is a single hole in the proximal end of the fragment. A second putative flute was excavated at the site of Mammuthöhle bei Wizchowie. This artifact, too, dates to the Upper Paleolithic, but further details regarding the artifacts age are not known. At the archeological site of Goyet in Belgium, a putative flute fabricated from a limb bone of an undetermined, presumably mammalian, species was excavated. This artifact may date to either the Middle or Upper Paleolithic, as suggested by lithic tools found at the site. Both epiphyses have been sawn off the bone, which is pierced with two holes, one at the end of one side and the other near the center of the opposite side. Another putative flute, dating most probably to the late Upper Paleolithic, was discovered at the site of Kesslerloch bei Thayngen in Switzerland. This artifact is constructed from a swan bone. Its function as a musical instrument, however, is questionable. Additionally, an artifact that may be a flute or whistle was discovered at the site of Csaklya in Hungary. The whistle (6.0 cm in length) has a central hole and dates to the Late Upper Paleolithic, although further details of its age are unknown.

The survey of Upper Paleolithic flutes that have been discovered to date indicates that the flute was widely used in Europe throughout the Upper Paleolithic period. The Upper Paleolithic era has been divided into a number of distinct cultures based upon their lithic industries and other features, the flute being found in association with all of these. Because of its ubiquity across space and time, we can assume that it had essential cultural significance.

Chapter 4: Engravings on Flutes

The engravings on the surfaces of Upper Paleolithic flutes are one of the most significant clues regarding the function of the instruments. A number of flutes are engraved. It is possible that they may have been painted with red ochre[115] or other pigments as well. The engravings on certain flutes are quite extensive, and their degree of detail and variation suggests that the markings may constitute a system of encoding information symbolically. The engravings, which are also found on other nonmusical artifacts from the Upper Paleolithic period, are possibly a form of protowriting that predates the earliest written scripts, Cuneiform and its predecessors, by tens of thousands of years.

The interpretation of these engravings is essential in our efforts to understand the functions and broader significance of these instruments. It has been suggested that the markings were made in the process of constructing the instruments, traces of measurements made to indicate where the finger-holes should be placed. The markings on Neolithic flutes found at Jiahu in Henan Provence in China have been similarly interpreted as marks made for determining the correct position of the finger-holes during the fabrication of the instruments. On the Jiahu flutes, "(t)here are conspicuous lines to mark the opening locations of the holes. This may indicate that calculation had

[115] Red ochre is any of various naturally occurring red earths containing ferric oxide. These are often used as pigments.

been made in making the instrument."[116] Perhaps, the lines near the finger-holes on Upper Paleolithic flutes were also made in calculating and marking the precise locations where the holes should be located. If the markings were made as measurements for the placement of finger-holes, the implication is that the makers of the instruments had the intention of creating instruments that could produce specific pitches, and perhaps specific scales.

Alternatively, the engravings may be tallies rather than markings indicating measurements. There is ethnographic evidence from Scandinavia that points to the use of bird bone to fabricate bird-calls. If at least some of the Upper Paleolithic artifacts are bird-calls as opposed to flutes in the modern sense, then the series of notches on their surfaces may be tallies of the number of birds attracted with the artifacts and subsequently captured. The association of the artifacts with birds (i.e., fabrication from bird bones) supports the notion that the engravings were tallies of the number of birds caught. In Scandinavia, bird-calls made of bird bone have been used by hunters as recently as the latter part of the twentieth century, when the use of bird-calls in hunting became illegal.[117] These bird-calls (see figs. 7-6 and 7-7) are remarkably similar to Upper Paleolithic flutes, not only in their material of construction but also in the engravings on their surfaces.

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[116] Zhao Feng, "An Outline of the History of Chinese Music from the Chinese Musical Instruments found in Archaeology Sites," in *The Universe of Music – A History, China Supplementary, Volume I: Instruments*, ed. Zhao Feng (Beijing: UNESCO/IMC, 1990), 6.
[117] Cajsa S. Lund, in discussion with the author (XII Congress ICTM Study Group for Music Archaeology: Sound and Ritual in Music Archaeology, University of Valladolid, Spain, September 23, 2011).

The markings on the instruments may be more complex than simple tallies, symbolically encoding various types of information. During a visit to the Pitt Rivers Museum in Oxford, I was struck by a drawing of an Australian message stick from Eastern Arnhem Land on display (fig. 4-1).[118] The etched lines on the artifact closely resemble the engravings on the surface of a flute dating from the Magdalenian found at the site of Isturitz (fig. 4-2). Noting that the engravings on both objects are composed of X-like symbols accompanied by parallel line segments, I speculated that the similarity was not a coincidence. Perhaps, the engravings on Upper Paleolithic flutes encoded information symbolically as they do in the case of message sticks. It is notable that engravings similar to those on Upper Paleolithic flutes are found on numerous nonmusical artifacts from the period as well, and thus, interpretation of the markings on the instruments has significance for understanding the meaning of these engravings in a broader context.

Figure 4-1. Message stick from East Arnhem Land.

[118] Copy of image at Pitt Rivers Museum, Oxford.

Figure 4-2. Engravings on Magdalenian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number 83 886 Ist II 1937 S.P.

In Australia, message sticks have been used to communicate between groups or clans separated by some distance. A message stick is typically a solid piece of wood (20 to 30 cm in length), the surface of which is engraved with geometric patterns. These might include angled lines, notches, dots, spirals, and even the cross-hatching that commonly adorns Upper Paleolithic artifacts. A messenger from one clan would be sent to another with an engraved message stick. Upon arrival in the neighboring camp, the messenger would explain the meaning of the markings to the head of the clan. The messages communicated by means of message sticks could be deciphered by the recipient without additional verbal communication from the message bearer.[119] The encoded information might be an inquiry regarding the health of members of the distant clan, an invitation to the men for a hunt, or the

[119] A. W. Howitt, "Notes on Australian Message Sticks and Messengers," *The Journal of the Anthropological Institute of Great Britain and Ireland* Vol. 18 (1889): 314.

announcement of an initiation ceremony involving several clans.[120] Message sticks were commonly used to invite neighboring groups to corroborees or ball games. They were also used to request a clan's assistance in battle. The complexity of the information encoded, coupled with the recipients' ability to *read* the symbols, implies that the engravings on the message sticks are a form of writing. Indigenous Australians have referred to message sticks as "letters" in the English language, and their bearers as "mailmen."[121]

The striking similarity between the engravings on the message sticks and those on a number of Upper Paleolithic flutes suggests that the engravings on the flutes may have transmitted information such as that communicated via message sticks. Thus, the artifacts functioned not only as sound-producers but also as carriers of symbolic information. If, during the Upper Paleolithic era, flutes were engraved with symbolic messages to be communicated across distances, then it appears that flutes were used in contexts in which members of several clans congregated. Most probably these gatherings were ceremonial or ritualistic in nature, as with indigenous Australian peoples.

A number of North American tribes have also used notched message sticks to record and communicate information. Alexander Marshack cites examples among the Seneca, Onandaga, Sioux, and Pima.[122] The notches on a Seneca message stick, for example, indicate the passing of a number of days,

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[120] Ibid., 331-32.
[121] Ibid., 314.
[122] Alexander Marshack, *The Roots of Civilization* (New York: McGraw-Hill, 1972), 139-40.

inviting chiefs to a ceremony at a particular time. An Onandaga message stick has twenty-seven notches, each representing a deceased chief. A Sioux message stick is approximately six feet in length, whereas the two preceding examples are relatively small. The surface is covered with small notches said to represent a thousand-year history of the tribe. Another example, a Pima message stick, is marked with unpainted notches, each representing a year. Other painted notches and dots represent important events that occurred during forty-five years of the tribe's history.

The markings on message sticks represent a form of symbolic writing, as shown in the illustration below. The messages communicated by means of notches and cross-hatching are quite detailed. In his 1889 publication, "Notes on Australian Message Sticks and Messengers," A. W. Howitt gives details of the messages communicated by the message sticks (fig. 4-3). Shown at the top of the plate reproduced in figure 4-3[123] as "fig. 1" is a message stick of the Woiworung tribe in Victoria. It was used to gather an assembly for a corroboree, a ceremonial meeting in which events from the Dreamtime – the sacred era in which Spirit Beings created the world and all of the animals and humans in it – are ritually re-enacted through music and dance.[124] Opposite sides of a message stick of the Tongaranka tribe in New South Wales is shown as "figures 2 and 3." This message stick relates to an initiation ceremony.

[123] Howitt, "Notes on Australian Message Sticks," 330.
[124] Ibid., 331.

The notches on "fig. 2" represent the following: a = the recipient of the message, c = the son of the old man represented by d, a and b = two boys who are to be initiated along with the boy represented by c. The notches on "fig. 3" have the following meanings: a, b, and c = the sender and his two brothers, d and e – two old men who are with the sender.[125] "Fig. 4" is another message stick from the Tongaranka tribe, with the following representations: a = the sender of the message, b and c = two men, whom the sender requests to meet him.[126] "Fig. 6" and "fig. 7" show the two sides of a message stick sent by a man at the Flinders River in Northern Queensland to a friend at the Mitchell River, informing him that his wife was ill.[127] "Fig. 8" is a message stick from the Wotjoballuk tribe in Victoria, inviting an assembly for a corroboree. The notches represent the following: a = the sender and four friends, c = the recipient, other notches = the people with b who should attend the corroboree.[128] "Fig. 9" and "fig. 10" show opposite faces of a message stick of the Adjadura tribe in south Australia. The notches in "fig. 9" have the following meanings: a = the sender of the message, b = the singers, c = women, the other notches = the dancers. The notches in "fig. 10" have the following representations: a = the old men invited to the corroboree, b = women, c = the men in the company of the old men who are invited to the

[125] Ibid., 331.
[126] Ibid., 331.
[127] Ibid., 331-32.
[128] Ibid., 332.

ceremony.[129] "Fig. 13" is a message stick from the Mundainbura tribe of Queensland. The series of notches represent the men of the Kurgila and Kuburu clans. The series of dots represent men of the Kunbe and Wungu clans.[130] "Fig. 14" is a message stick of the Chepara tribe in Queensland. The exact function of this message stick is not known; it was used to call the recipients to either a corroboree or an initiation ceremony.[131] "Fig. 15" and "fig. 16" show opposite faces of a message stick from the Wakelbura tribe. The message stick was sent by a man of the Wakelbura tribe to a man of the Yangebura tribe, in Queensland, inviting him to join the sender in hunting game near a certain wire fence erected on a sheep run. The sections have the following meanings: a = emu, b = wallaby, c = the wire fence.[132] "Fig. 17" is a message stick from the Turribul tribe in Queensland. It carries a message from one man to another. The notches indicate the following: a = the distance of the sender from the recipient in stages, or camps, b = a break in the message, c = the people in the camp with the sender, d = the number of days after which the sender plans to visit the recipient, e = four objects that the sender requests the recipient to send him, f = a break in the message, g = people with the recipient of whom the sender requests news.[133]

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[129] Ibid., 332.
[130] Ibid., 332.
[131] Ibid., 332.
[132] Ibid., 332.
[133] Ibid., 332.

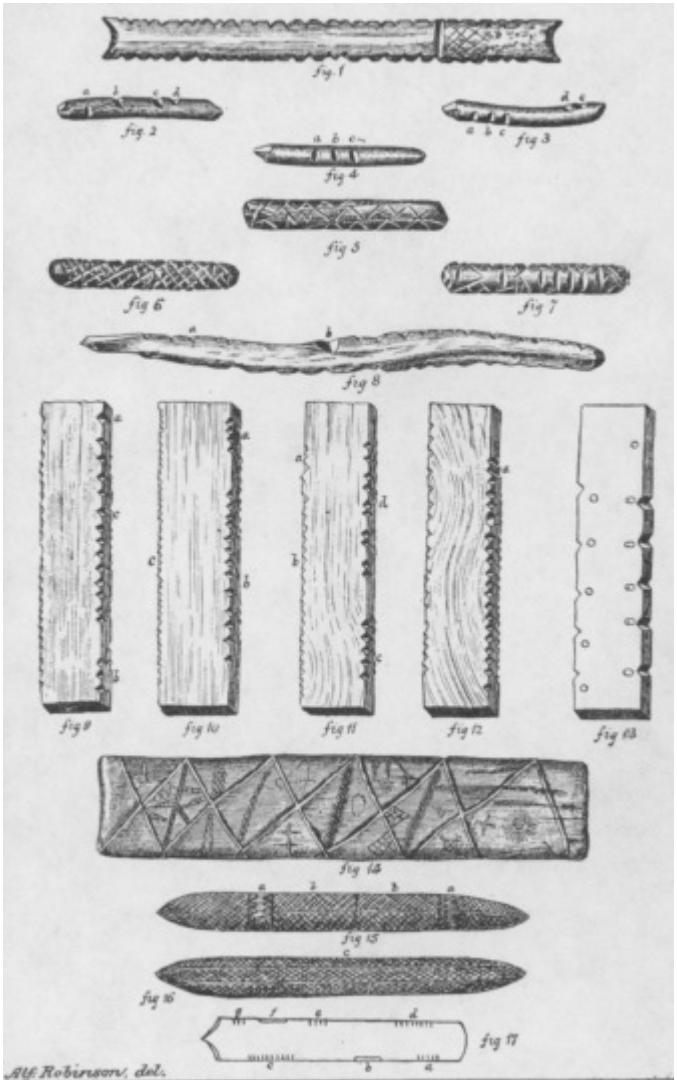

Figure 4-3. Australian message sticks.

An additional reference to Australian message sticks comes from a work by Jeannie Gunn, in which she describes her experience at a station in Mataranka in the Northern Territory in 1902. An indigenous Australian showed the author a message stick, calling it a "yabber-stick." "It was round, not flat like most other letters, and was an invitation to a corroboree; and there

were notches on it explaining what sort of corroboree it was, and saying that it was to be held at Duck Creek. There was some other news marked on it…"[134] The markings on this message stick communicated information regarding the nature and location of the corroboree. The description of this particular message stick as round is significant in comparison with Upper Paleolithic artifacts, particularly engraved bird bones without finger-holes. These artifacts may have functioned as message sticks rather than sound-producers. The question arises as to what might have been the significance of holes cut near the ends of some of these bird-bone tubes, such as a Magdalenian artifact from Isturitz (Musée d'Archéologie Nationale catalogue number Isturitz 83 886 Ist. II 1937 S.P., see figs. 4-2, 4-11, 4-12, 4-13, 4-14, 4-15). The holes cut near the ends of the tubes may have been for the insertion of cords. This would have facilitated the delivery of the tubes serving as message sticks. On the other hand, these holes may have had a more substantial, acoustical function, that is, the holes may have been created to split the air column. However, the possibility that bird-bone tubes functioned simultaneouly as message sticks and musical instruments must not be ruled out. The similarities between the engravings on Australian message sticks and Upper

[134] Jeannie Gunn, *The Little Black Princess of Never-Never* (Melbourne: George Robertson, 1925), 54.

Paleolithic artifacts can be seen in the following figures (fig. 4-4,[135] fig. 4-5,[136] fig. 4-6,[137] fig. 4-7,[138] fig. 4-8[139]).

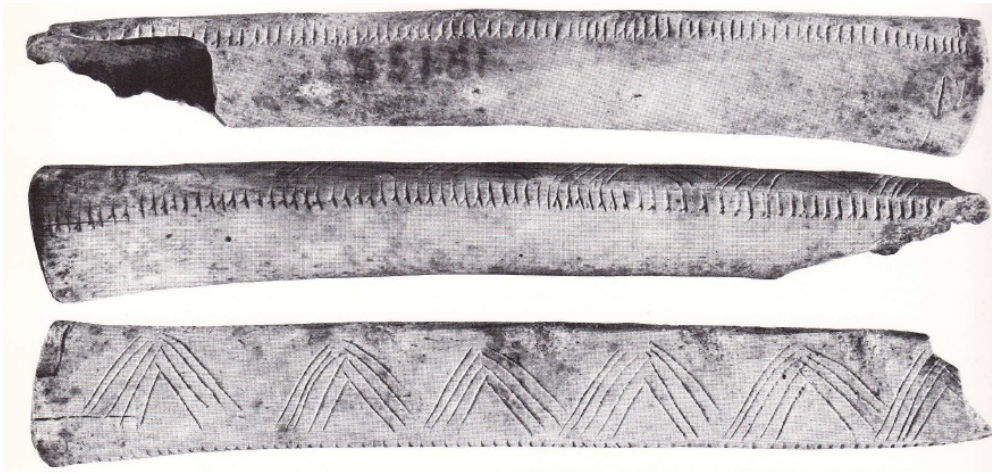

Figure 4-4. The three faces of an engraved fragment of eagle bone from the Grotte du Placard, Poitou-Charente, France, Middle Magdalenian.

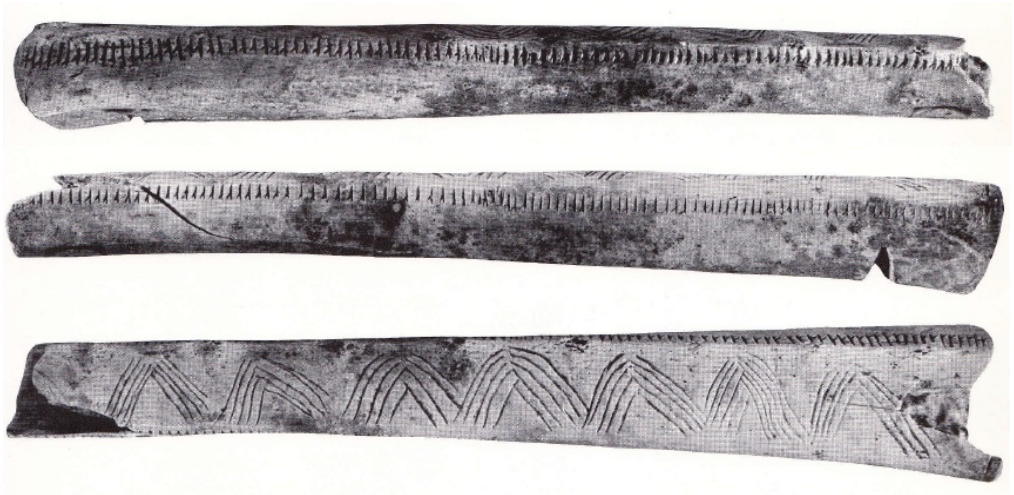

Figure 4-5. Three faces of a second eagle bone from the Grotte du Placard, Poitou-Charente, France, Middle Magdalenian.

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[135] Marshack, *Roots of Civilization*, 148.
[136] Ibid., 161.
[137] Emmanuel Passemard, "Les Spirales de la Caverne d'Isturitz," *Bulletin de la Société Préhistorique Française* 17, no. 6 (1920): 151.
[138] Ibid., 152.
[139] David Wynford Carnegie, *Spinifex and Sand: A Narrative of Five Years' Pioneering and Exploration in Western Australia* (London: C. Arthur Pearson, 1898), Appendix to Part V.

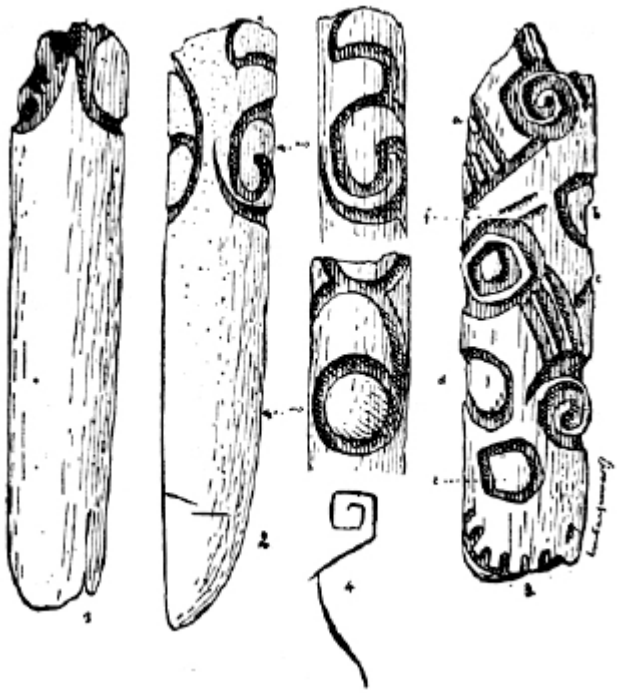

Figure 4-6. Spiral motifs on four Upper Paleolithic artifacts, reindeer antler, Isturitz.

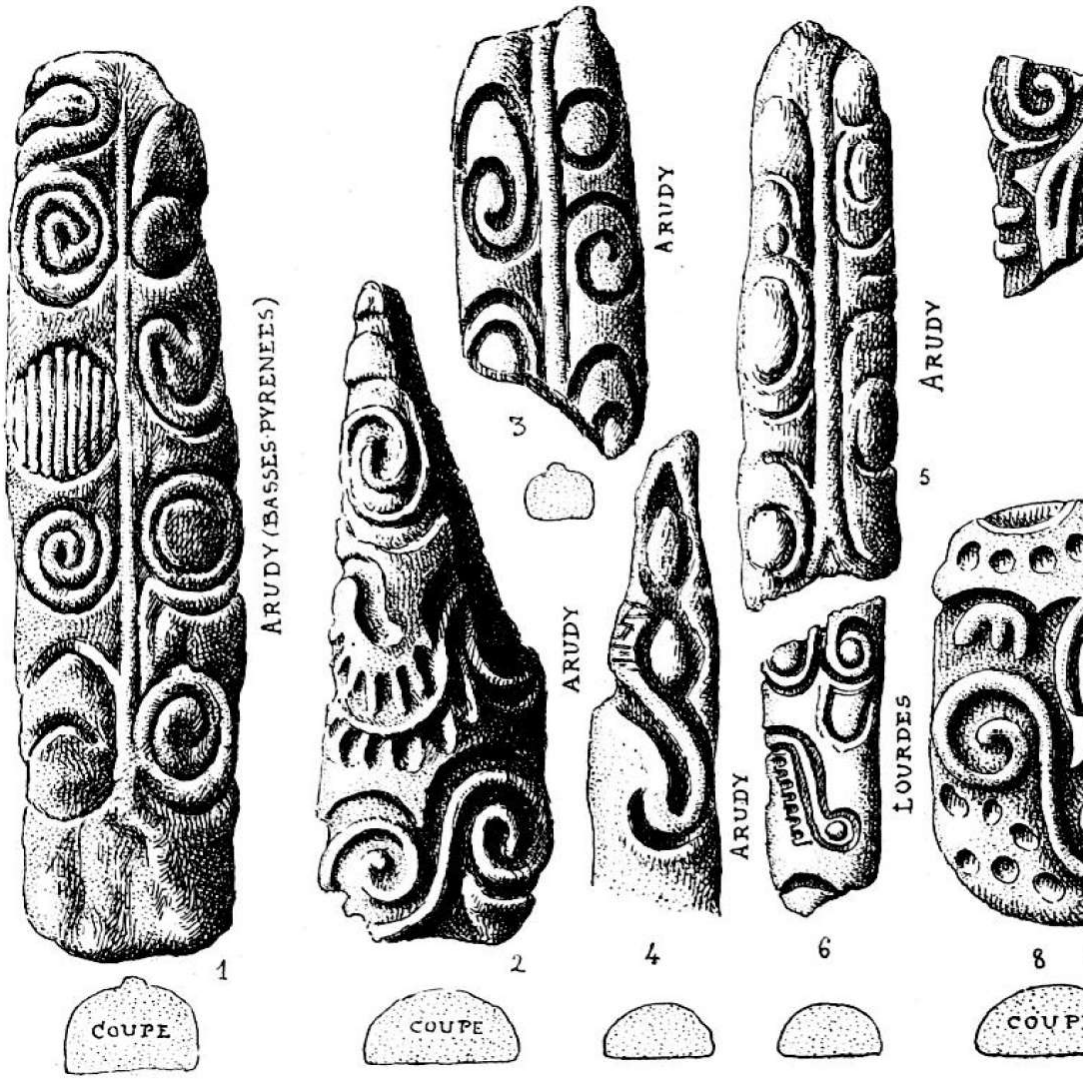

Figure 4-7. Spiral motifs on Upper Paleolithic artifacts, reindeer antler, Arudy and Lourdes.

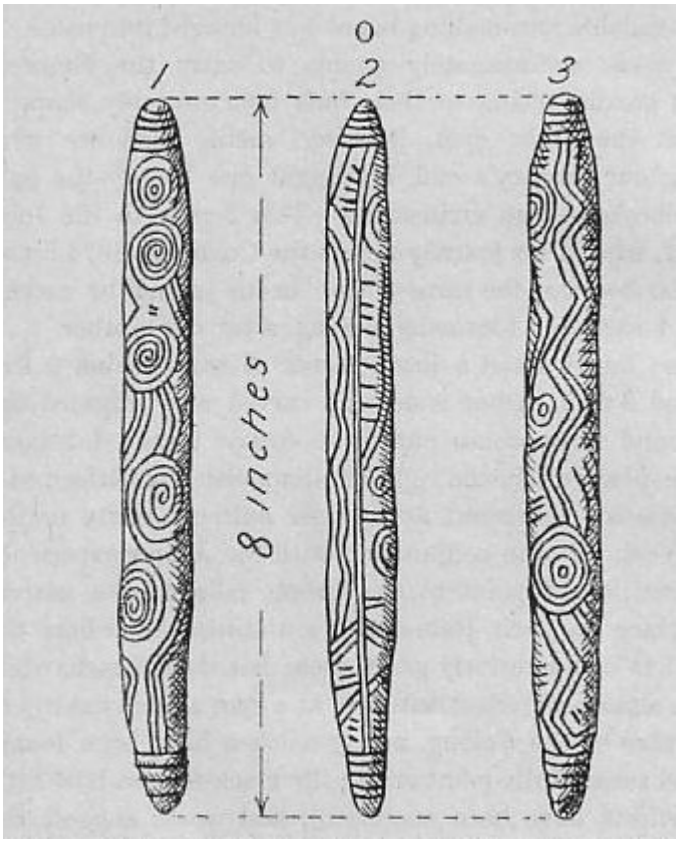

Figure 4-8. Australian message stick with spiral motifs, 3 views.

Further evidence that information was encoded in the engravings on the surfaces of Upper Paleolithic flutes results from comparison of Australian message sticks and other Upper Paleolithic artifacts, specifically artifacts of reindeer antler engraved with spiral and circular designs. David Wynford Carnegie was an explorer and gold prospector in Western Australia in the late nineteenth century. In 1898, he published an account of five years of expeditions, and in this work he describes message sticks used by indigenous Australians.

> These little sticks, rounded, carved, and painted with grease and red ochre, are known as either letter sticks or message sticks, and are common all over the continent. The carvings are supposed by some to represent the actual words of the message; by others it is held — and to this view I am inclined — that the sticks are tokens carried by a messenger to show that his words are authentic, and each stick belongs to one tribe or individual whose identity is shown by the carvings. They vary in length from 2 1/2 to 8 inches.[140]

The similarity between the engravings on this particular message stick and Upper Paleolithic artifacts from the sites of Isturitz, Arudy, and Lourdes (see figs. 4-6 and 4-7) are striking. Isturitz and Arudy are both located in the Pyrénées-Atlantiques of southwestern France, while Lourdes is in the neighboring Hautes- Pyrénées. The spiral designs as well as the central line on each are common elements of the artifacts. Additionally, the wave-like motif on one surface of this message stick resembles that on the bird-bone tubes from the Grotte du Placard (shown in figs. 4-4 and 4-5). Edouard Piette, one of the foremost French archeologists of the turn of the last century, studied artifacts engraved with spiral and circular pattern from Arudy and Lourdes (see fig. 4-7) at great length and concluded that these were a form of hieroglyphs.[141] Although his theory was later abandoned by most archeologists, Emmanual Passemard, one of the first archeologists to excavate the site of Isturitz, concurred that the engravings on the artifacts from Arudy

[140] Ibid., Appendix to Part V.
[141] Passemard, "Les Spirales," *Bulletin de la Société Préhistorique Française* 17, 6 (1920), 153.

and Lourdes, as well as similar engravings on four artifacts found at Isturitz, constituted a form of hieroglyphic writing.[142] The question arises as to the meaning of these wave-like patterns. The regularity of the pattern suggests that it may be decorative rather than symbolic. The less regular and more complex markings on the bird-bone tubes from the Grotte du Placard (i.e., series of parallel line segments with accompanying feet as well as the oblique line segments above on one of the specimens), on the other hand, suggest a more meaningful, symbolic rather than decorative function. These may have been some kind of tallies or may have encoded more complex information. The series of line segments as well as the wave-like symbols may also constitute markers of tribal or individual identity, as David Wynford Carnegie has suggested is the case with Australian message sticks.

The possibility that engravings on Upper Paleolithic flutes encode information by means of a symbolic system of communication has significant ramifications that extend well beyond these artifacts alone. Numerous Upper Paleolithic artifacts are engraved in a similar manner, and these artifacts, too, may have been used to store and communicate information. If information was communicated with these markings, then the markings constitute a symbolic form of writing, or proto-writing, that predates the first script by tens of thousands of years. Furthermore, if flutes were engraved with symbolically encoded information, they communicated information in two ways – aurally

[142] Ibid., 154.

and symbolically, suggesting that these instruments were an essential component of human expression on multiple levels.

Alexander Marshack, in *The Roots of Civilization*, proposed an alternative interpretation of engravings on Upper Paleolithic artifacts, including bird-bone tubes and flutes.[143] In this seminal work, having documented the astronomical and mathematical knowledge of Upper Paleolithic cultures in Europe, he proposed that the markings are representations of the lunar calendar. He also interpreted sets of markings on mobiliary artifacts and cave walls as representations of the lunar cycle. These sets of marks include lines and crescents, which were often laid out in a serpentine pattern suggestive of either streams and rivers or belief in a serpent deity. Lunar calendars would have been useful if groups were semi-nomadic and therefore needed to keep track of the time spent at alternating sites or regions, perhaps as they followed herds of game in their seasonal migrations. Tracking the lunar cycle may have also facilitated determination of the duration of pregnancies.

This possibility raises the question of gender as it relates to the flutes. Were they played exclusively by men or women? There are clues in Upper Paleolithic art. Most flutes have been excavated at cave sites, and most human representations within caves are depictions of men. Many of these are therianthropic figures, which may depict shamans either dressed as animals or

[143] Marshack, *Roots of Civilization*, 48-49, 53-54.

in the process of shamanic transformation into animal form. Most of the male figures are located within the innermost chambers. Perhaps, rituals restricted to males occurred within these chambers, implying that the instruments were utilized by males only within the context of these rites. However, there are also representations of females in Upper Paleolithic art, most notably Venuses, which include portable sculptures as well as parietal sculpture. The oldest extant Aurignacian flute, excavated at the site of Höhle Fels, was found in close proximity to the oldest known Venus figurine. This suggests that the flute may have been associated with feminity, and perhaps fertility.

It appears that in many cases the engravings on the instruments are representational. They are notational in that they encode external information symbolically. Some engravings may have been a primitive form of musical notation. These markings may have represented repetitive bird calls, which would have been sounded by use of the calls.[144] Such notation of bird calls may have been pragmatic, the notation serving as a mnemonic aid for the hunter. The engravings may instead have been totemic. In the latter case, the markings would have established a magical liason between the lure and the birds via the transcription of their calls on the artifacts. There is rhythmic element in the repetition of the designs engraved on a number of bird-bone tubes.[145] Chevrons are a common repetitive motif engraved on the tubes.

[144] Robert S. Hatten, e-mail message to author, November 14, 2011.
[145] Michel Dauvois, "Les Témoins Sonores Paléolithiques Extérieurs et Souterrains," in *Sons*

This repetitive, rhythmic element further suggests that these artifacts were sound-producers, either bird or animal lures or musical instruments. Indeed, the series of parallel notches engraved on flutes and other Upper Paleolithic artifacts are "the first step in the evolution of traditional writing."[146]

Microscopic analysis undertaken by Francisco d'Errico and Graeme Lawson of the engravings on two of the most intact flutes from the site of Isturitz in the Pyrénées-Atlantiques has shown that the flutes were engraved in a variety of ways, with a variety of tools, spacings, motions, and orientations.[147] A number of distinct series of notches are engraved on each of these flutes (figs. 4-11 and 4-12).[148] The differentiation between the series of markings on the artifacts suggests that they were signifiers rather than decoration. In general, the greater the degree of complexity, irregularity, and differentiation of the engravings on the flutes, the more likely they were signifiers. Furthermore, this points to fact that the artifacts had a particular social function in which signification of information was an important element. One can imagine that the artifacts were used in the context of rituals

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Originels: Préhistoire de la Musique, ed. Marcel Otte, proceedings of a conference at Liège, Belgium, December 11-13, 1992 (Liège: Université de Liège, 1994), 16.

[146] Anthony Aveni, *Empires of Time: Calendars, Clocks, and Cultures* (New York: Basic Books, Inc., 1989), 70.

[147] Franciso d'Errico and Graeme Lawson, "Microscopic, Experimental and Theoretical Re-Assessment of Upper Palaeolithic Bird-Bone Pipes from Isturitz, France: Ergonomics of Design, Systems of Notation and the Origins of Musical Traditions," in *Studien zur Musikarchäologie III*: *Archäologie früher Klangerzeugung und Tonordnung. Orient Archäologie 10*, eds. E. Hickmann, A. D. Kilmer, and R. Eichmann (Rahden: M. Leidorf, 2002), 127.

[148] Ibid., 136.

in which vital information was recorded. D'Errico and Lawson have concluded that the markings on the flutes they examined constitute notation rather than decoration. Moreover, it is apparent that the number of notches in each sequence was meaningful. On one of the flutes from Isturitz, the final notches in one sequence is compressed at the distal end of the instrument; the engraver was certain to include a precise number of markings within the sequence as the available surface of the flute became limited.[149] Such engravings are evidently not decorative. Whatever these sequences of notches represent, we can determine that they were marked on the surfaces of the flutes for one of several reasons. One possibility is that the notation was somehow associated with the instrument itself, the music played upon the flute, or the context in which the instrument was utilized. Another possibility is that the flute belonged to an individual (or perhaps a group of individuals) who concerned himself or herself not only with the musical activities but also with a certain form of record-keeping. Although conjectural, we can imagine an individual who held certain prestige within Upper Paleolithic society, entrusted with the flutes and responsible for keeping systematic records, as evident on their surfaces.

[149] Ibid., 128.

The most complete of the two flutes examined by d'Errico and Lawson dates to the Gravettian period.[150] Its entire surface is covered with engravings (fig. 4-9).[151] They comprise six series of notches, which are more or less parallel. Each series was most likely produced by a different stone tool. The differences in engraving technique and motion and type of tool employed in engraving each series indicate their engraving at different times.[152] The most elaborate of these series (fig. 4-9, set 1) includes no fewer than seventy-five V-shaped markings, extending along the lower three-quarters of the flute. Each mark in this series was engraved with two different tools, and there are indications that all of the markings were made with the same pair of tools in one session. It is significant that in this sequence the markings toward the end of the flute are compressed, as if the engraver intended to engrave a specific number of marks in the series, even as the available space along the length of the instrument became limited. This compression of marks is evidence that the engravings were not decorative. Rather, the number of marks in each series was important, suggesting that the engravings functioned to record some kind of information in which number was an integral component. The second series of engravings (fig. 4-9, set 2) is comprised of at least forty-one thin, short marks, all of which were engraved

[150] Musée d'Archéologie National, Saint-Germain-en-Laye, catalogue number Isturitz 75 252 A3 Ist. III 1939 + IF 3 ∝ 1914 accord.
[151] d'Errico and Lawson, "Microscopic, Experimental and Theoretical Re-Assessment," 136.
[152] Ibid., 125.

with the same stone tool in one session. The third series (fig. 4-9, set 3) is the longest of the sequences, comprised of ninety-two marks, all of which were also made with a single tool in a single session. Set 4 is the only series positioned on the upper portion of the instrument. It is different from the other series in that it is comprised of three distinct subsets. Although this sequence includes distinct subsets, all of the markings were made with a single tool in one session. Set 5, which appears below set 4 on the right face of the instrument, includes two distinct subsets. These are attributable to a change in the engraver's motion rather than a change in tool. On the posterior face of the flute, only two marks of a sixth set (fig. 4-9, set 6) remain. This set was most likely much longer, but most markings are missing due to the fragmentation of this part of the artifact. A small group of nine incisions is visible at the microscopic level about 1 cm above set 1. These do not appear to be notational, as with the other series. Rather, they appear to be the result of the attachment of an external object to the instrument.[153]

[153] Ibid., 125-26.

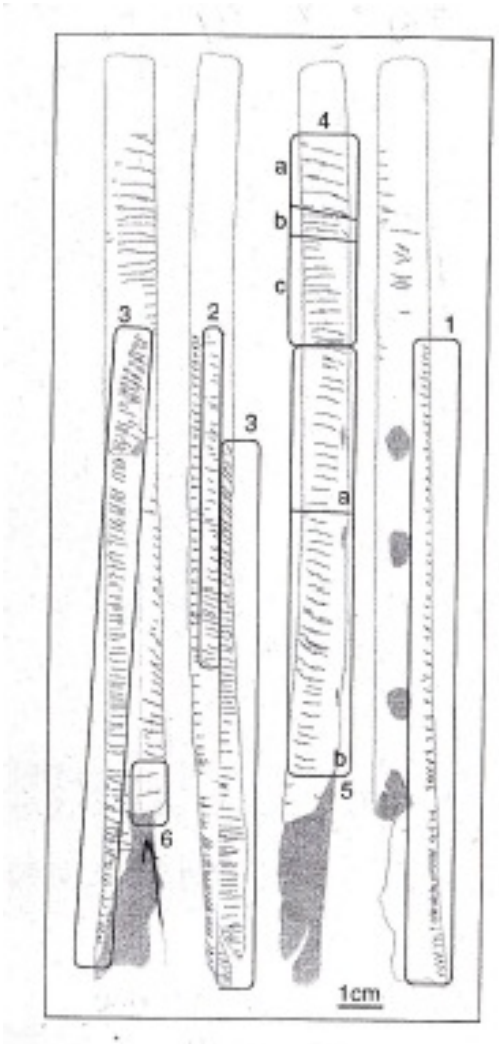

Figure 4-9. Diagram of markings on complete Isturitz flute, Gravettian, catalogue no. Isturitz 75 252 A3 Ist. III 1939 + IF 3 ∝ 1914 accord, Musée d'Archéologie Nationale, according to Graeme Lawson and Francesco d'Errico.

The surface of the second, nearly intact Gravettian flute from Isturitz is similarly engraved with four sequences of markings (fig. 4-10).[154] The first set (fig. 4-10, set 1) is comprised of two subsets, between which the three

[154] Musée d'Archéologie National, Saint-Germain-en-Laye, catalogue number Isturitz 86 757, Ist. IV 1939. d'Errico and Lawson, "Microscopic, Experimental and Theoretical Re-Assessment," 136.

notches of set 2 were inserted. There is evidence that sets 1 and 2 were made with different tools at different times. Set 3 consists of three broad parallel lines between the second and third finger-holes. These are the only markings on the frontal face of the instruments and were carefully positioned so they were aligned with the markings in subset 2a and 2b on the sides of the flute (see fig. 4-10). Set 4 includes numerous sinuous markings that cover most of the posterior face of the flute. Three subsets are discernible: the first on the upper portion of the flute, with closer and more sinuous markings; the second in the middle of the posterior surface, with more widely-spaced, oblique marks; and the third at the lower extremity of the instrument, giving evidence of intense wear.[155]

[155] d'Errico and Lawson, "Microscopic, Experimental and Theoretical Re-Assessment," 127.

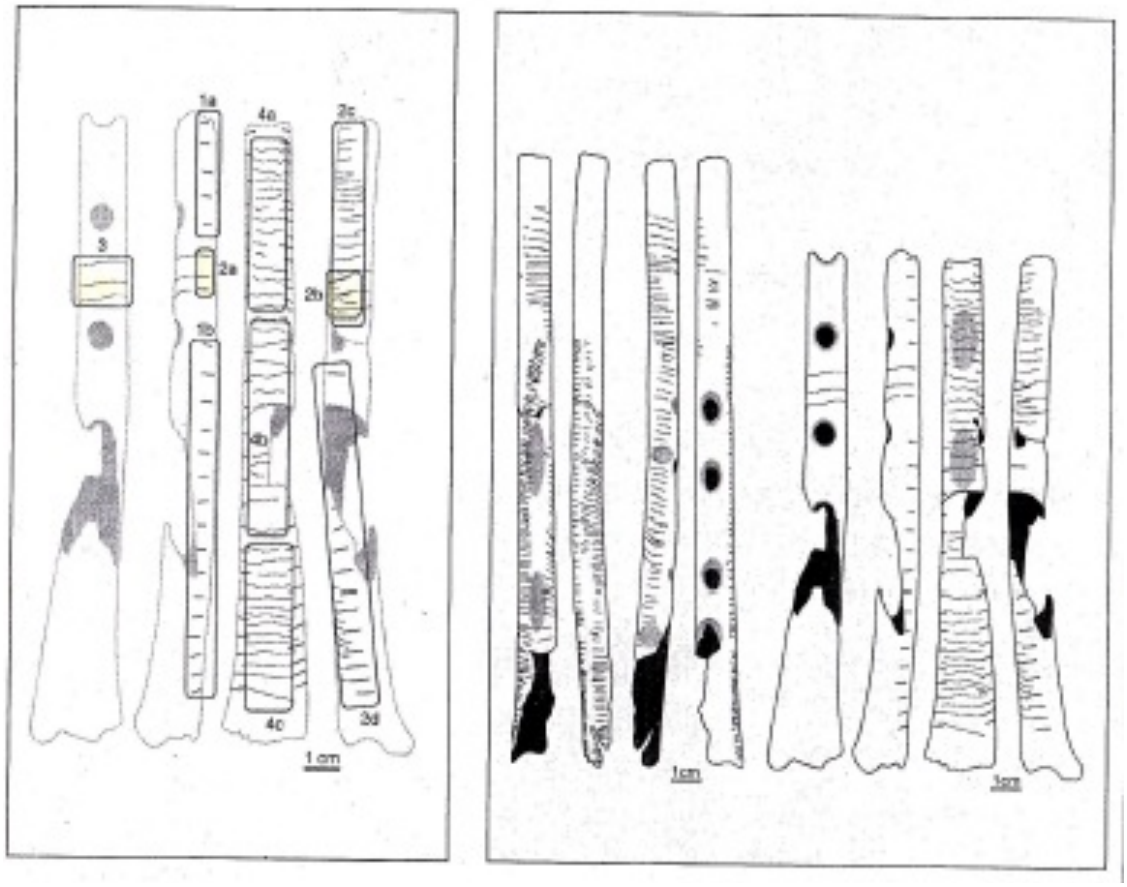

Figure 4-10. Diagram of markings on nearly complete Isturitz flute, Gravettian, catalogue no. Isturitz 86 757, Ist. IV 1939, Musée d'Archéologie Nationale, according to Graeme Lawson and Francesco d'Errico.

It appears that the engravings on both of these flutes constitute a meaningful symbolic pattern. There is evidence that the markings are symbolic in that there are differences in spacing and orientation as well as the use of both single- and multiple-stroke markings. Furthermore, there had been no attempt to establish symmetry in positioning the markings on the flutes. This further suggests that the series of marks are symbolic rather than

decorative.[156] The complexity of the engravings suggests that they may be related to the manner in which the instruments were played, possibly constituting a form of musical notation.[157] Instruments may have been engraved to preserve musical information from generation to generation. The length of some the sequences on these flutes suggests, however, that the markings served another purpose. The engraving of ninety-two distinct marks in one sequence, for instance, seems excessive if the marks were indications of a method for playing the flute. Rather, long sequences of marks such as this seem to have been tallies or symbols of a different nature. It is possible that these artifacts were bird-calls used in hunting. In this case, each sequence may have recorded the number of birds successfully hunted in a single season with the employment of that particular artifact. Alternatively, the engravings may have notated bird calls, a possibility easier to imagine with V-shaped notches than linear markings; each V-shaped notch may have indicated rising and falling pitches in a bird song. The notation of bird songs on the artifacts may have been pragmatic as a mnemonic device for the hunter. Notation of bird song may aslo have been totemic, a means of magically attracting the desired birds. One possibility is that the notches may have represented the number of initiates involved in a particular rite of passage. This hypothesis is supported by evidence that the various line segments were made with different

[156] Ibid., 127-28.
[157] Ibid., 129.

tools, apparently at different times. Lawson and d'Errico have suggested yet another possibility – that the *act* of marking the instrument was more important than the use of the markings to store information. If the flutes were employed within the contexts of ritual or initiatory contexts, the participants may have engraved the instruments to imbue them with magical powers. The repetitive marking of an instrument may have also served as a catalyst toward a trance-like state within ritual contexts.[158] As previously suggested, the markings may have encoded information that was important in the context of rituals.

A Magdalenian flute from Isturitz is the most intricately and beautifully engraved of the Isturitz flutes (figs. 4-11, 4-12, 4-13, 4-14, 4-15). A roughly semicircular hole has been carved at one end of the artifact. This hole could serve to split the airstream and thus create the sound produced in playing the flute. On the surface of the artifact, there are several distinct sequences of notches in *bas relief*. On the upper portion of the instrument are five of these sequences, and on the lower portion three, so there are eight altogether, grouped asymmetrically (five plus three). This asymmetrical grouping suggests that the engravings were not decorative. Rather, it appears that they either encoded information or functioned as a symbolic system of communication. Within this system of symbols, it seems that meaning is encoded both in the sequences of notches and cross-hatching as well as in the

[158] Ibid., 129.

asymmetrical placement of the sequences themselves. The complexity of the engravings, along with the existence of this hole, also brings to mind the possibility that the artifact may have been a message stick rather than a flute. Marshack cites a message stick used by the Seneca of North America. This artifact was similarly pierced with a single hole through which a cord was strung.[159]

Marshack studied two eagle bones with markings remarkably similar to those on the Magdalenian flute from Isturitz. Both of these bones were excavated at the site of Le Placard in France and date to the Magdalenian period as well. He calls them 'sister' bones as the engravings on their surfaces are quite similar. Both bones are engraved with series of parallel-line segments, accompanied by feet, or shorter, oblique notches at their bases. After analyzing the patterns in the markings, he concluded that these were representations of lunar calendars and that the notation used to record the lunar calendar during the Magdalenian age had evolved from a simpler notation utilized during the preceding Aurignacian, Gravettian, and Solutrean periods.[160] Moreover, the second of these eagle bones studied by Marshack possessed a blow hole that shows this bone was played as a flute or whistle.[161] The blow hole cut in the La Placard bone is remarkably similar to that cut into the Magdalenian flute from Isturitz. This similarity, as well as the similarity

[159] Marshack, *Roots of Civilization*, 139.
[160] Ibid., 147-63.
[161] Ibid., 160.

of the notation on the surfaces of the flutes, demonstrates that a single cultural tradition that utilized this system of notation was shared at the two sites during the Magdalenian era. The bird-bone tubes from Le Placard are not considered to be flutes, but the almost identical artifact from Isturitz has been classified as a flute. All three artifacts are engraved with similar markings, demonstrating that the notational system in use by the culture common to both sites was associated with these bird-bone tubes. The holes cut in the second tube from Le Placard and the one cut in the Magdalenian Isturitz flute may be blow holes or holes used to suspend the bone by means of an attached cord. The horizontal elongation of the holes in both artifacts suggests that they were blow holes intentionally cut in this shape in order to produce sound rather than simple holes through which a cord could be strung.

Figure 4-11. Detail, Magdalenian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 83 886 Ist II 1937 S.P.

Figure 4-12. Detail, Magdalenian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 83 886 Ist II 1937 S.P.

Figure 4-13. Detail, Magdalenian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 83 886 Ist II 1937 S.P.

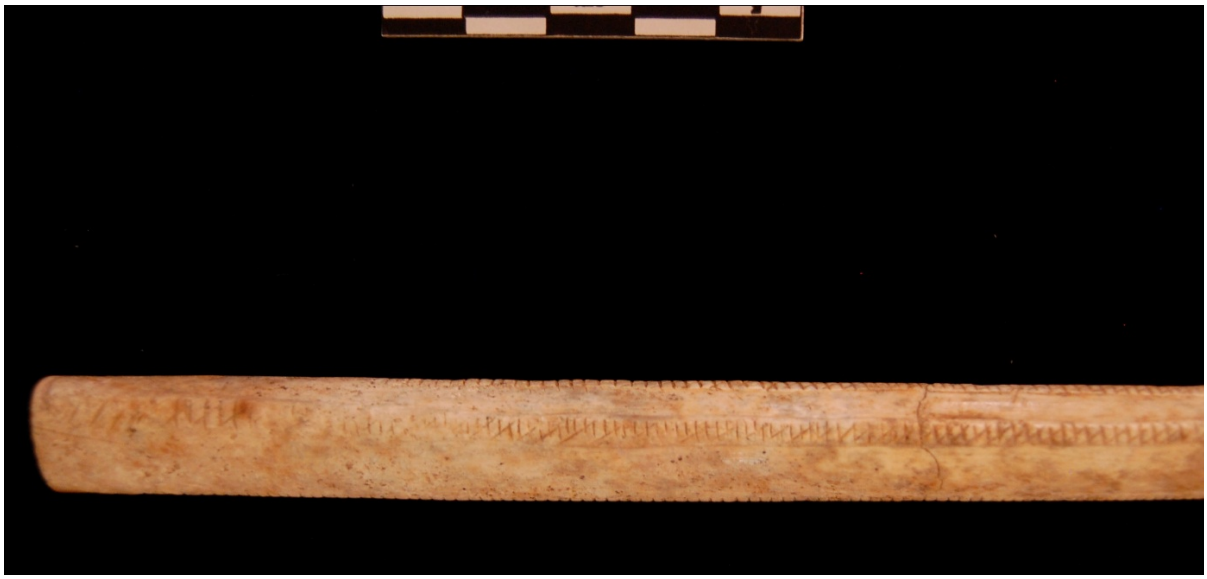

Figure 4-14. Detail, Magdalenian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 83 886 Ist II 1937 S.P.

Figure 4-15. Detail, Magdalenian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 83 886 Ist II 1937 S.P.

Another Magdalenian flute fragment from Isturitz is engraved with complex markings that seem to have symbolic significance. The markings on this artifact (fig. 4-16) include roughly parallel striations accompanied by smaller oblique notches above some of them. There are additional notches, some of which form V-shaped markings below the primary sequence of parallel notches. The complexity of the markings on this artifact suggests several possible meanings. A certain rhythmic element is suggested in the alternation between long and short markings. These particular engravings may represent sound, either a bird call or music, with the longer notches representing pitches or sounds with longer duration and the shorter notches representing ones of shorter duration.

Figure 4-16. Magdalenian flute fragment from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 77 153 P2 I E ∝ 1914.

The engravings on the Isturitz flutes are entirely geometric. The surface of a Gravettian flute fragment (fig. 4-17), for instance, is engraved with undulating lines. Harrod has interpreted curved and undulating lines, as well as zigzags, meanders, spirals, triads of lines, chevrons, and rays, in Upper Paleolithic contexts as symbolic representations of the life force.[162] Most of the flutes, however, are engraved with fine incisions that form series of parallel line segments, usually straight but sometimes slightly undulating. No traces of ochre were evident on the Isturitz flutes studied by Dominique Buisson.[163] These types of incisions first appeared in the Aurignacian and became quite common during the Gravettian. Such incisions are commonly found on artifacts fabricated from bird bones, such as those from the sites of Gourdan (in the Haute-Garonne) and Laugerie-Basse (in the Dordogne). The precise meaning or function of the décor on the Isturitz flutes remains unknown. The markings on the instruments may have been decorative, or may have endowed the flutes with a certain religious significance. Passemard proposed that the markings may have served to assist the player's hands in holding the instrument. Saint-Périer proposed that analogous markings on nonmusical artifacts were marques de chasse, tallies of animals hunted successfully. The markings could also represent a form of musical notation.

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[162] James B. Harrod, "Deciphering Upper Paleolithic (European): Part 1. The Basic Graphematics – Summary of Discovery Procedures" (paper presented at the Language Origins Society Annual Meeting, 1998, 2nd version): 16-17.

[163] Buisson, Dominique Buisson, "Les Flûtes Paléolithiques d'Isturitz (Pyrénées-Atlantiques)," *Bulletin de la Société Préhistorique Française* 87, 10 (1990): 427-29.

Upon initial examination of the Isturitz flutes, I had suspected that some of them originally had painted figures on them. It appeared that the ochre and black coloring on these artifacts are remnants of what had been more extensive coloring with black and ochre pigments. One Gravettian fragment (fig. 4-17), in particular, appeared to have traces of ochre and black pigments on its surface. Undulating and horizontal engravings seemed to be vestiges of what had originally been decoration comprised of engraving and painting in combination. It even seemed that the undulating lines had represented the backs of a herd of animals that had been engraved and painted on the surface of this artifact. There are also triangular figures (on the left side of figure 4-17) that are reminiscent of both cross-hatching and the feet accompanying parallel line segments on other flutes. The engravings may be cross-referential. A connection between the abstract markings and the animals that were engraved on this particular artifact is suggested. My original hypothesis that the flutes may have been painted was based, in part, on evidence that numerous Upper Paleolithic artifacts and objects of art are colored with ochre and that both black and ochre pigments were utilized in creating the cave paintings of the epoch. Extensive research will be necessary to prove that the color of the artifacts is a vestige of deliberate painting.[164] For each flute, it would be necessary to identify the archeological level from

[164] Catherine Schwab, curator of the Paleolithic and Mesolithic collections at the Musée d'Archéologie Nationale, in discussion with the author, Musée d'Archéologie Nationale, June 2010.

which it was excavated and identify the sediments and minerals in that stratum. Only if no ochre or black sediments or minerals were present could one determine that the artifact had been painted. Painting the flutes would have constituted their designation as special, perhaps sacred, objects in the way that Upper Paleolithic paintings marked cave sites as sacred spaces.

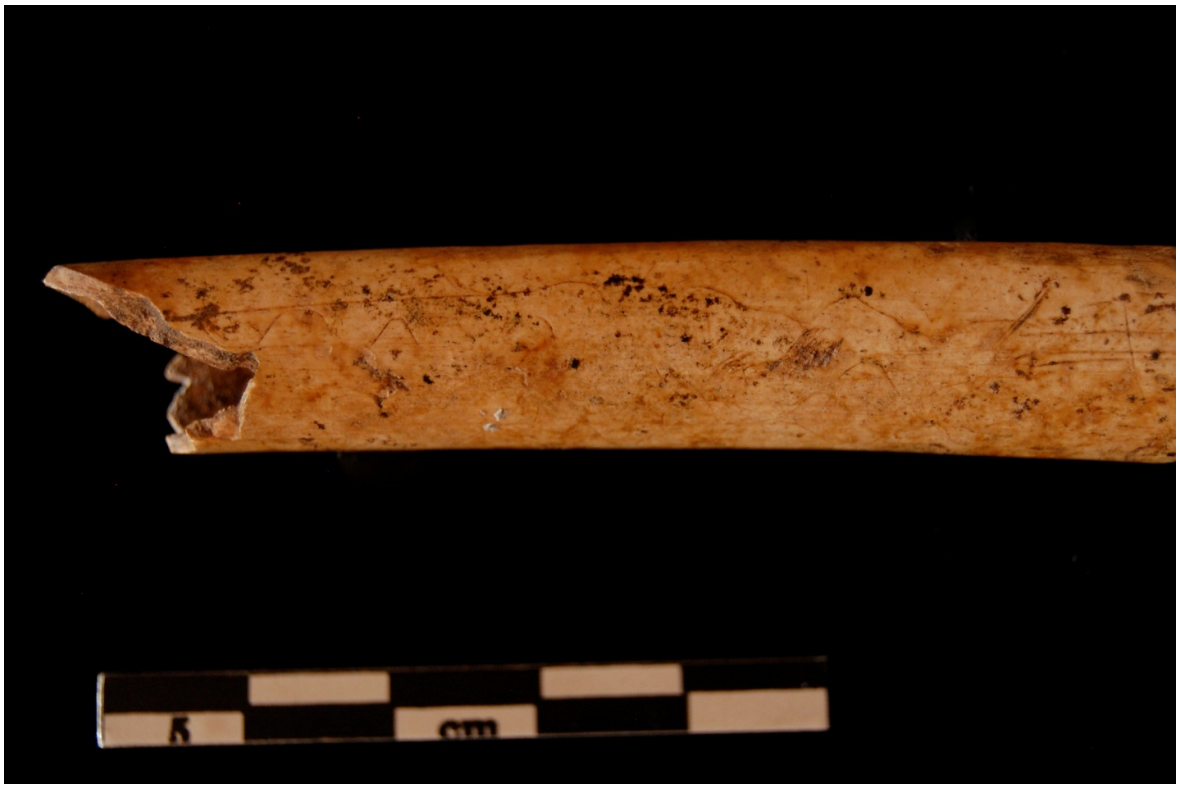

Figure 4-17. Gravettian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 75 253 A2 IF 3 ∝ 1914.

Aside from hypotheses regarding the symbolic nature of engravings and possibly decorative coloring, it can be hypothesized that some incisions have an extrinsic practical function. The possibility exists that the markings on at least some of the flutes were means by which external objects were attached to their surfaces. The complexity of the engravings on the

Magdalenian flute from Isturitz suggests that these encoded information, as discussed above. However, the notches on other flutes are of a much simpler nature, and these may have facilitated the attachment of an object to the flute. The tradition of attaching feathers to flutes in a number of North American tribes suggests the possibility that such things as feathers may have been attached to the instruments. The attachment of feathers would have augmented the symbolic connection with birds already suggested by the fabrication of the flutes from bird bones. Another possibility is that a reed was attached to the instruments. Jean-Loup Ringot has speculated that the bird-bone tubes are too narrow to have been played as flutes, so a reed must have been attached in order to play the instruments.[165] Although the tubes are not necessarily too narrow to have been played as flutes, the possibility that reeds were attached to some of the artifacts should not be ruled out. Simple parallel, and relatively deep, engravings may have been a means by which a string was held in place as it was wrapped around the instrument. A Gravettian flute from the site of Isturitz (fig. 4-18) is engraved with rather deep striations at one end. External objects, such as feathers, may have been tied to the end of flutes such as this one by winding cord through the notches. The deep striations in Geissenklösterle flute 1 (fig. 4-19)[166] suggest that these

[165] Jean-Loup Ringot, in discussion with the author, XII Congress ICTM Study Group for Music and Archaeology, Valladolid, Spain, September 20, 2011.
[166] Wulf Hein, Susanne Münzel, and Friedrich Seeberger, "The Geißenklösterle Flute – Discovery, Experiments, Reconstruction," in *Studien zur Musikarchäologie III. The Archaeology of Sound: Origin and Organisation*, eds. Ellen Hickmann, Anne Draffkorn

may have also served to facilitate the attachment of external objects to the instrument by winding a cord through the notches. The depth and width of these notches suggest a pragmatic rather than symbolic function of the engravings in this instance. Australian aboriginal message sticks provide ethnographic support for this hypothesis. The ends of some message sticks, such as two specimens from the Gournditch-mara tribe sited by A. W. Howett, were wrapped with fine twine or sinew.[167]

Figure 4-18. Gravettian flute from Isturitz, Musée d'Archéologie Nationale, catalogue number Isturitz 75 252 A2 IF 3 α 1914.

Kilmer, and Ricardo Eichmann, papers from the 2nd Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, September 17-23, 2000 (Rahden/Westfalen: Verlag Marie Leidorf GmbH, 2002), 115.

[167] A. W. Howitt, *The Native Tribes of South-East Australia* (1904; reprint, Canberra: Aboriginal Studies Press, 1996), 699.

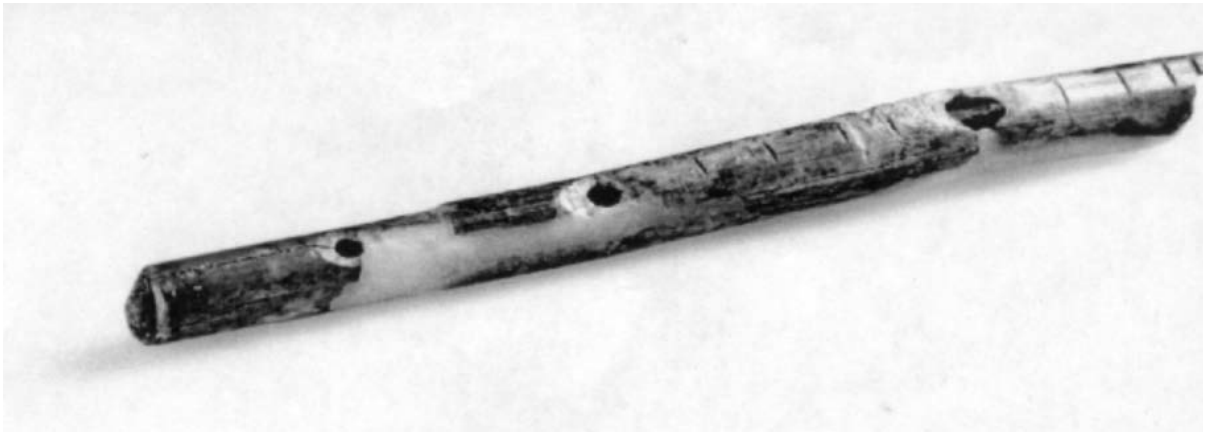

Figure 4-19. Geissenklösterle flute 1, completed with wax.

The attribution of Upper Paleolithic bird-bone tubes without holes as flutes is problematic, although they may nevertheless have functioned as sound-producers – as flutes without holes, components of syrinxes, or as voice disguisers. Some bird-bone tubes are engraved with geometric images while others are engraved with representations of animals, and these engravings are often more detailed and representational than those on Upper Paleolithic flutes. The engravings on certain artifacts suggest that they functioned as sound-producers and may have been musical instruments.

One of the most notable examples is a late Magdalenian bird-bone tube (fig. 4-20)[168] from the site of Saint-Marcel in Indre. The engravings on this artifact suggest that it was used as a call to attract animals in hunting. This further implies that other bird-bones tubes, and perhaps bird-bone flutes, functioned similarly. On the bird-bone tube from Saint-Marcel, there is an

[168] Jacques Allain, "Un Appeau Magdalénien," *Bulletin de la Société préhistorique française* tome 47, no. 3-4 (1950): 185.

engraving of ten cervid ears. The engraving of the organ of hearing upon the tube links the artifact with sound, suggesting that such artifacts functioned as sound-producers. It seems likely that it would have been used to call deer in particular and that its sound simulated deer sounds. Upon inspecting this artifact, Jacques Allain surmised that a series of deer heads, of which only the ears remained, was originally engraved upon the tube. He proposed that the artifact was employed in hunting to reproduce the call of does during rutting season.[169]

[169] Ibid., 189.

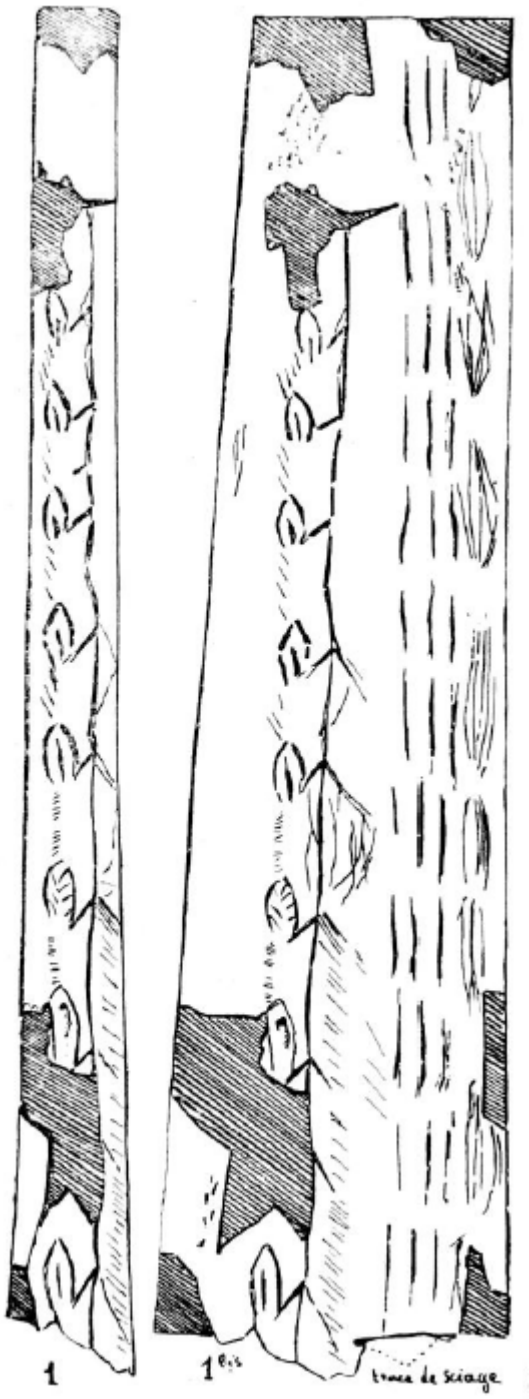

Figure 4-20. Bird-bone tube engraved with cervid ears, Saint-Marcel, Indre, France.

In summary, the engravings on Upper Paleolithic flutes and bird-bone tubes are multifaceted and most probably multivalent. While deep, regular striations may have served a practical function such as facilitating the attachment of external objects to the instruments, more sophisticated markings appear to encode information. Various hypothesis have been proposed regarding the meanings of these engravings. They may have been tallies, transcriptions of bird calls, messages in the form of symbolic protowriting, or information of another sort. In any case, the existence of such markings on the instruments points to their use within contexts that required the recording of information on their surfaces. Possible contexts include hunting, ceremonial or ritual contexts, and transmission of information from one group or clan to another.

Chapter 5: Archeological Contexts

Almost all of the flutes from the Upper Paleolithic period have been discovered at cave sites. The discovery of the vast majority of flutes within caves may be an accident of preservation. In other words, the instruments may have been utilized at open-air sites as well as in caves, though only those deposited within caves may have been preserved in the archeological record. However, the ubiquity of flutes at cave sites throughout Europe as well as the excavation of numerous flutes at some of these sites (i.e., Isturitz and Le Placard) suggests that the instrument was intrinsically linked to the cave in Upper Paleolithic culture. Although it can be said that the flute was connected with the cave, it must be pointed out that different caves served different purposes. Some were habitation sites, while others seem to have been reserved for ritual use. Some appear to have been aggregation sites.[170] Flutes may have served a variety of functions within the contexts of these types of caves. They may have been stored within the sacred space of the cave. Ethnographic comparison suggests this possibility. Flutes are stored in sacred spaces in a number of cultures.[171]

David Lewis-Williams has proposed that the caves served as entries into the supernatural realm and that shamans engraved and painted the animal

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[170] Aggregation sites are sites where it is is thought that the members of otherwise disparate groups met annually or seasonally. It is likely that these were special occasions calling for the performance of rituals and that these meetings were at least partially for the purpose of trade among groups.

[171] For example, the Banaro of Papua New Guinea store flutes in sacred "spirit houses." Curt Sachs, *Geist und Werden der Musikinstrumente* (Hilversum: Frits A. M. Knuf, 1965), 20.

spirits of their visions on the cave wall, which served as a veil between the mundane and sacred worlds.[172] Much Upper Paleolithic art has been discovered in the deepest chambers of caves, where sensory deprivation is likely and humans are predisposed to enter trance-like states of consciousness. This supports the hypothesis that the art was produced by shamans in an altered state of consciousness and that caves were central to shamanic ritual.[173]

It is likely that the cave was viewed as the giver of life in that it was symbolic of the womb – either of the earth or of the Goddess. The depictions of animals – living, pregnant, injured, dying – on the walls of caves throughout Europe during the Upper Paleolithic suggests that the cave was representative of the womb. Images of life (i.e., the representations of these animals) are painted upon the walls of this symbolic womb, and the animal life is symbolically nourished and sustained by the life-giving walls of the womb. In certain paintings, a bulge in the cave wall was employed to accentuate the swollen belly of a pregnant animal, further evidence that the cave was viewed as a womb; its walls nourished the nascent life of the fetus within the pregnant animal.[174] Thus, these cave sites provide evidence of the connection between the flute and the symbolic womb. This association

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[172] Eva Jane Neumann Fridman and Mariko Namba, eds., *Shamanism: An Encyclopedia of World Beliefs, Practices, and Culture* (Santa Barbara: ABC-CLIO, Inc., 2004), 17.
[173] Ibid., 17.
[174] Edgar Blake and Donald Johanson, *From Lucy to Language* (New York: Simon and Schuster, 1996), 102.

further suggests the association of the instrument with the motives of life and birth.[175]

Gertrude Rachel Levy has proposed that rituals performed in caves reflected people's desire to participate in the creativity of the goddess.[176] In the images of animals painted on the cave walls, there is evidence of people's desire to align themselves with the power of the animals. Supporting evidence that the cave was symbolic of the womb comes from André Leroi-Gourhan's discovery that abstract symbols of the female are found in the most prominent chambers of cave sites as well as in central positions within painted groupings of symbols.[177] The prominence and centrality of feminine symbols in parietal art thus attests to the importance of the feminine in Upper Paleolithic culture and to the function of the cave as symbolic representation of the womb.

Even in later times, the cave has been associated with the feminine and with birth. There is archeological evidence that rituals were celebrated within caves in Neolithic and Bronze Age Crete. There were cave shrines to the goddesses in ancient Greece. The association of the cave with the womb is evident even in the traditional Orthodox icon that shows Mary giving birth to Jesus in a cave. There are numerous stories of the Virgin Mary appearing in

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[175] G. Rachel Levy, *Religious Conceptions of the Stone Age and their Influence upon European Thought* (New York and Evanston: Harper & Row, 1963), 27.
[176] The association of the flute with the goddess is discussed further in Chapter 8.
[177] Carol P. Christ, *Rebirth of the Goddess: Finding Meaning in Feminist Spirituality* (London: Routledge, 1998), 51.

caves, such as Lourdes in France, throughout the centuries. In all of these historical examples, the cave is the womb of the earth or the goddess, the place of transformation and birth. The darkness within the cave is the void of creation, and the place of deep nonverbal communication with the goddess, or life itself.[178] Since almost all Upper Paleolithic flutes have been discovered at cave sites, it was in the darkness of the cave that the flute was most probably played and heard. It was thus linked to the goddess, the womb, the earth, and the creation of life.

While some caves were inhabited during the Upper Paleolithic period, others were not. The hearths and artifacts that have been discovered within some caves are evidence that humans utilized these caves as occupation sites. However, there is no evidence of human occupation at any of the hundreds of cave sites where Upper Paleolithic paintings have been discovered.[179] Thus, there is archeological evidence that there was a clearly defined distinction regarding the function of caves in Upper Paleolithic culture. Flutes have been discovered at sites either with or without evidence of occupation. This suggests that the instrument may have functioned in a variety of ways. Perhaps, the flute functioned as both a sacred and profane instrument, depending upon time and context.

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[178] Ibid., 51.

[179] Sandy Fritz, "Found: Wonders of a Secret Cave," *Popular Science* (June 1995): 106.

Numerous flutes found at specific sites (i.e., Isturitz, Le Placard, Vogelherd, Geissenklösterle, and Höhle Fels), sometimes spanning the tens of thousands of years of the entire Upper Paleolithic era, point to their importance *at these particular sites*. This implies a relationship between the individual caves and the flutes, and suggests a ritual or ceremonial function of the flutes within these caves. It is thought that many of the sites where flutes have been discovered were aggregation sites. As these were intermittent gatherings of otherwise separated groups, they were most likely seen as special occasions. Ceremonies and rituals that involved members of the larger group most likely took place within the caves during these gatherings. If sites such as Isturitz were aggregation sites, the flute would have been an important instrument associated with such gatherings and communal activities. The ubiquity of flutes left at cave sites such as Isturitz suggests that the instruments were utilized in rituals or ceremonies enacted as people gathered at these sites. The archeological record presents evidence that the flute played a significant role in these rituals.

The earliest known flutes, dating to the early Aurignacian, have been found at the cave sites of Vogelherd, Höhle Fels, and Geissenklösterle in the Swabian Jura (southern Germany). Höhle Fels and Geissenklösterle are located near each other in the Ach Valley, while Vogelherd is in the nearby Lone Valley. These were substantial habitation sites, with sizable archeological assemblages showing evidence of occupation. There is

evidence from Höhle Fels and Geissenklösterle that the caves of the region were inhabited regularly during both the winter and spring. Some archeological levels within these caves have produced hundreds of pieces of debris from ivory working. The debris is evidence of habitation over a long period.[180] The musical tradition that existed during the Aurignacian in the Swabian Jura was accompanied by early figurative art and numerous cultural innovations, including various forms of personal adornment and new lithic and organic technologies. Although mobiliary art has been excavated, there is no parietal art in these caves. The absence of parietal art further suggests that these sites were occupational and that they were not reserved for a distinct ritual or sacred use.

The discovery of early Aurignacian flutes at the neighboring sites of Vogelherd, Geissenklösterle, and Höhle Fels suggests that the people who lived in the Ach and Lone Valleys shared a common culture. Scupltures of lion-human therianthropes[181] have been discovered at Höhle Fels as well as Hohlenstein-Stadel (an additional cave site in the Lone Valley). The discovery of human-feline therianthropes in both the Lone and Ach valleys provides further evidence that the people who occupied the Swabian Jura shared a common culture. The occupants of Höhle Fels and Hohlenstein-

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[180] Nicholas J. Conard, "Palaeolithic Ivory Sculptures from Southwestern Germany and the Origins of Figurative Art," *Nature* 426 (December 2003): 830-31.

[181] Therianthropes are beings that possess both animal and human characteristics. Therianthropy refers to the transformation of humans into animal form. Upper Paleolithic therianthropic figures may be depictions of shamans in the process of acquiring the spiritual or mental attributes of various animals.

Stadel were members of the same cultural group, sharing beliefs, art, and practices associated with therianthropic images of felines and humans.[182] The shared culture of the region included a common musical culture in which flutes were an essential component. Thus, they most likely held the same significance and functioned in the same manner throughout the region. Most of the flutes discovered in the region have been found in contexts with an abundance of organic and lithic artifacts, remains of hunted fauna, and burnt bone. In other words, the flutes were discovered along with stone tools and remnants of food. The discovery of the flutes alongside remains of hearths further suggests that the instrument may have been associated with communal activity centered around the hearth, perhaps food preparation or meals.

There was an ice-free corridor linking the Swabian Jura with the Ardèche region of France, where Chauvet cave is located. The two regions are approximately 400 miles apart.[183] As the two areas were not isolated, it is possible that the populations were in contact with each other and shared certain cultural features. The artistic traditions of these two regions suggest that each possessed a distinct culture. While parietal art was created in Upper Paleolithic France, there is no parietal art in the caves of the Swabian Jura. However, portable sculptures, including Venus figurines and sculptures of

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[182] Ibid., 831.

[183] Werner Herzog, Director, *Cave of Forgotten Dreams*, Creative Differences, History Films, Ministère de la Culture et de la Communication, 2010.

animals and therianthropes have been discovered at sites in this region.[184] The paintings of animals on the walls of Chauvet cave imply a certain degree of cultural overlap. In considering the question of cultural continuity during the Upper Paleolithic, we may ask whether this ice-free corridor extended further west into the Dordogne region of France, and perhaps beyond, encompassing many Upper Paleolithic cave sites in that region. Is it possible the peoples of the Swabian Jura were culturally connected with populations as far away as Isturitz in the Pyrénées-Atlantiques via this corridor?

The oldest cave paintings in the world were discovered at Chauvet. These are approximately 32,000 years old, dating to the Aurignacian period. The wall paintings at this site are nearly twice as old as all other known parietal art.[185] As shown in Werner Herzog's documentary, *Cave of Forgotten Dreams*, the cave was a sacred site at which visual and acoustical elements combined to create sensory experience of the sacred. Chauvet was not a habitation site, although there is evidence that fires burned in the cave during the Upper Paleolithic. It is significant that fires were lit inside the cave. People would have been able to see their shadows projected onto the

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[184] Ibid.

[185] The implementation of a recently developed Uranium-series dating technique has yielded dates of 35,600 years ago for a club-shaped image at Altamira, 37,000 years ago for depictions of female genitalia at the Abri de Castanet, 37,300 years ago for a hand stencil at Tito Bustello cave, and 40,800 years ago for a red disk at El Castillo cave. If these dates are correct, the now-accepted chronology of Paleolithic cave painting in which Chauvet is regarded as the oldest example must be replaced with an accurate chronology based upon the new data. Such early dates for cave art raises the possibility that it was created by Neanderthals rather than anatomically modern humans. Michael Balter, "Did Neandertals Paint Early Cave Art?," *ScienceNOW* (June 14, 2012), accessed December 12, 2011, http://news.sciencemag.org/sciencenow/2012/06/did-neandertals-paint-early-cave.html.

walls of the cave, where the human shadows would have merged with the paintings of the animals.[186] This implies a human desire to connect or merge with the animals depicted in the cave paintings, which is echoed in other contexts by the placement of human hand prints on or near paintings of animals. Over 190 cave bear skulls were found within the cave, which was used by hibernating bears as well as humans. One cave bear skull was found placed on top of a large stone, and there is evidence that a fire was lit on top of this stone. The deliberate placement of the skull and the lighting of fire on the stone suggest the enactment of a ritual activity. The use of fire, the paintings, and the altar-like stone are evidence of the ritual use of the cave.[187] Although no musical instruments have been excavated at Chauvet, the evidence that this cave was reserved for ritual use has significant implications regarding Upper Paleolithic flutes. Although flutes have not been excavated at Chauvet, the use of Chauvet for ritual purposes supports the hypothesis that flutes – as a result of their association with cave sites – were played in the context of ritual activities.

Footprints of a boy alongside the footprints of a wolf have been found in Chauvet, which recall the heel marks of boys at Tuc d'Audoubert.[188] This

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[186] Werner Herzog, "Herzog Enters 'The Cave of Forgotten Dreams,'" interview with Terry Gross, *Fresh Air*, WHYY, NPR, April 20, 2011.
[187] Ibid.
[188] Count Henri Bégouën, the father of the three boys who discovered the site of Tuc d'Audoubert, commented that the heel marks were those of two to three youths (most likely at the age of puberty – thirteen or fourteen years of age) who were marching in an ordered and directed manner likely to be a sort of ritual dance. Pieces of clay that had been shaped into

boy's footprints are the oldest human footprints that can be accurately dated. They were made between 25,000 and 27,000 years ago. It is unclear whether the wolf was domesticated and was in the company of the boy, whether the wolf followed the boy into the cave in pursuit of him, or whether the boy and the wolf left their footprints in the cave at different times.[189] Footprints dating to the Upper Paleolithic have survived only exceptionally, where the ground was not covered by sediments and where they have not been obliterated by recent visitors to the sites. Footprints from the Upper Paleolithic have survived, however, at the sites of Aldène, Montespan, Niaux, and Pech Merle. Although these do not show evidence of ritual activity, footprints that have survived at the site of Le Tuc d'Audoubert suggest that these were made in a ritual context. At a distance of 770 yards from the entrance of the cave, at the end of a gallery, there are two bisons modeled in clay. Next to these are a few cylindrical pieces of clay and piles of clay that may be the remains of other clay sculptures. Nearby, in the clay of a puddle-shaped depression, there are about fifty heel prints left by a youth, evidence that the youth was walking on his heels. The Abbé Breuil thought that these prints were evidence of an

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phallic shapes and deposited in a corner of the cave also suggest that the youths were engaged in ritual activity, perhaps a rite of passage, when they left the heel marks in the cave. Comte Henri Bégouën, "Observations nouvelles dans les grottes de Pyrénées," in *Publication en l'Honneur de Prof. Gorjanovic* (Krambergera: Zagreb, 1925-26), 504-05, referred to in R. Dale Guthrie, *The Nature of Paleolithic Art* (Chicago: Univeristy of Chicago Press, 2006), 129.

[189] Herzog, Interview with Terry Gross, "Herzog Enters 'The Cave of Forgotten Dreams.'"

initiation ceremony involving the youth.[190] There are ethnographic examples of rites in which boys walk out of a cave or hall backward, walking on their heels.[191]

It is striking that all known footprints that survive from the Upper Paleolithic were made by young people. This suggests that they were made in the course of initiation ceremonies within the caves. There is a long line of footprints at the site of Aldène, suggesting that a groups of youths were present. At the sites of Niaux and Montespan, there are footprints of a few youths at a point where the ceiling is low. Again, there is evidence that a group of youths were present at the same time. At the site of Pech Merle, there are footprints of a boy, and perhaps those of a woman who accompanied him. Although the footprints of youths may remain in these places because the children enjoyed playing in puddles and soft clay, the footprints may be evidence that youths participated in rituals or initiation ceremonies within the caves. The absence of adult footprints supports the hypothesis that caves were utilized for the ritual initiation of children. The discovery of flutes in caves suggests that the instruments may have been associated with these ceremonies.[192] Perhaps, the flutes were intentionally deposited within the caves in the contexts of rites of passage.

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[190] André Leroi-Gourhan, *Treasures of Prehistoric Art* (New York: Abrams, 1967), 181.
[191] Ibid., 181.
[192] Ibid., 181.

The site of Montespan yields additional evidence that ritual activity took place in caves. Clay sculptures were discovered in the cave. One is a relief of a horse (previously thought to be a feline). Another is a sphinx-like figure without a head. This sculpture is pierced with holes that seem to have been made with a spear. In addition, there are several masses of clay that have been completely deformed. In another part of the vast cave, there is a horse engraved in bas relief on the clay wall. This figure is also covered with the marks of blows. The skull of a cave bear cub was found lying between the hoofs of this sculpture. This suggests that the engraving may have been covered with the hide of a bear cub, complete with head, and subsequently subjected to ritual strikes. The evidence that clay sculptures and figures engraved on the cave walls were struck repeatedly suggests that Upper Paleolithic rituals involved such actions. There are also cave paintings that depict pierced or slaughtered animals. These include the wounded bison at the site of Niaux and a bear marked with small circles at Les Trois Frères. In these cases, the pierced or wounded animal appears within a group of otherwise intact figures. Perhaps there were rituals in which wounds were inflicted on one of a group of animals. The ritual striking of animal representations may be echoed in the process of imposing signs on paintings of animals. There is evidence that signs superimposed on animal depictions were added after the animal was painted. In the Black Salon at Niaux, for

instance, all of the animals are painted with black pigment, whereas all the signs painted on the animals are red.[193]

The acoustical properties of caves may have been exploited in the context of rituals performed in the caves. Sound was a significant component in the way in which caves were experienced. The interior of the cave functioned as a large echo chamber, in which the sound was amplified. One can imagine the emotional impact of the sound resonating within the cave.[194] Sound must have been perceived by parts of the human body other than the ear. While certain frequencies were perceived as sound, others would have been experienced in the body as vibrations.

Iegor Reznikoff has proposed that a correlation exists between the placement of wall paintings and locations of the greatest acoustical resonance within Upper Paleolithic cave sites.[195] Moreover, acoustical features of the caves appear to have been exploited, and they were used to produce sound directly associated with the paintings. For instance, at the Grotte du Cheval at Arcy there is a painting of a bovine on a wall of the cave. Directly across from the painting on the opposite wall there is a niche, which produces the

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[193] Ibid., 181-82.

[194] Marcel Otte, "Regards sur la Musique Paléolithique," in *Studien zur Musikarchäologie I: Saiteninstrumente in Archäologischen Kontext*, eds. Ellen Hickmann and Ricardo Eichmann (Rahden: M. Leidorf, 2000), 98.

[195] Iegor Reznikoff, "Prehistoric Paintings, Sound and Rocks," in *Studien zur Musikarchäologie III. The Archaeology of Sound: Origin and Organisation*, eds. Ellen Hickmann, Anne Draffkorn Kilmer, and Ricardo Eichmann, papers from the 2nd Symposium of the International Study Group on Music Archaeology at Monastery Michaelstein, September 17-23, 2000 (Rahden/Westfalen: Verlag Marie Leidorf GmbH, 2002), 49.

sound of bison-like growls when one produces the sound "*hm*" with cranial resonance.[196] Similar examples of this effect are found at the sites of Le Portel and Oxocelhaya.[197] The exploitation of such acoustical features implies a significant relationship between sound and parietal art. It appears that sound brings the painted animals to life. In hearing the animal, especially as the sound emanates from a location other than that of the person blowing into the crevice, it sounds as if the bison is alive. Sound, then, bestows life upon the painted animal. Regarding the relationship between visual representations of animals and sound, Reznikoff points out the reciprocal relationship between images and sound. The painted and sculpted images call for sound, as resonant locations require imagery.[198]

Acoustical experiments conducted by Reznikoff to identify the most acoustically resonant locations within caves have shown that these locations are often decorated with art. Reznikoff studied three caves in the Ariège region – Niaux, Fontanet, and Le Portel. The findings from Fontanet did not indicate that the acoustical properties of the cave were linked to the parietal art. However, the original entrance of this cave was blocked by landslides after the Upper Paleolithic era, and the acoustical properties of the cave have thus been altered. It has been observed that the caves of Niaux and Le Portel have not changed since the Upper Paleolithic, except for the thickness of the

[196] Ibid., 43.
[197] Ibid., 44.
[198] Ibid., 44.

cave walls and the height of the cave floor, which would alter pitches within the caves but not other acoustical features.[199] While these experiments show that the paintings and engravings are situated in the most acoustically resonant areas of the caves where sound is amplified, there are vast surfaces of cave walls that are not at all decorated. These surfaces correspond to areas with little acoustic resonance. Because the Grande Salle (also called the Galerie Jeannel) at Le Portel, for instance, is not particularly resonant, there are relatively few wall paintings in this chamber. The absence of paintings in such chambers, despite large walls available for painting, strongly supports the hypothesis that cave paintings and acoustical properties of the caves were integrally linked. Most acoustically resonant locations within the caves are marked with paintings of animals. Other resonant locations are marked with red dots (fig. 5-1),[200] which appear to be markers for these resonant locations. A striking example is found at Le Portel. In the Galerie Jammes, on the left side of the south wall there is a red dot that precisely marks the spot where the resonance A_1 (a fifth above the tonic of the gallery) appears. Reznikoff describes the discovery of resonant locations within caves as he explored their

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[199] Iegor Reznikoff, "On the Sound Dimension of Prehistoric Painted Caves and Rocks," in *Musical Signification: Essays in the Semiotic Theory and Analysis of Music*, ed. Eero Tarasti (Berlin: Walter de Gruyter, 1995), 546-48. See also Lucie Rault, *Instruments de Musique du Monde* (Paris: Éditions de La Martinière, 2000), 14, 18-19.

[200] Photograph courtesy of the Bradshaw Foundation. http://www.google.com/imgres?imgurl=http://www.bradshawfoundation.com/chauvet/gallery/2b.jpg&imgrefurl=http://www.bradshawfoundation.com/chauvet/page2.php&h=560&w=750&sz=250&tbnid=V2tikCtdcaVuAM:&tbnh=87&tbnw=117&prev=/search%3Fq%3Dchauvet%2Bred%2Bdots%26tbm%3Disch%26tbo%3Du&zoom=1&q=chauvet+red+dots&usg=__i4vY3LhIu4Cdr1OmC5y584nq1S8=&docid=gPDqfDR0YiE92M&hl=en&sa=X&ei=XlkMUej0Mcrm2QWauoHwAg&ved=0CEAQ9QEwAw&dur=1197.

acoustic properties in the dark: "A remarkable discovery in the study of ornate caves is the relationship between painted red dots in narrow galleries, where one has to crawl, and the maxima of resonance of these galleries. While progressing in the dark gallery, crawling and making vocal sounds, suddenly the whole gallery resonates; you put the light of your torch on, and a red dot is there on the wall of the gallery."[201]

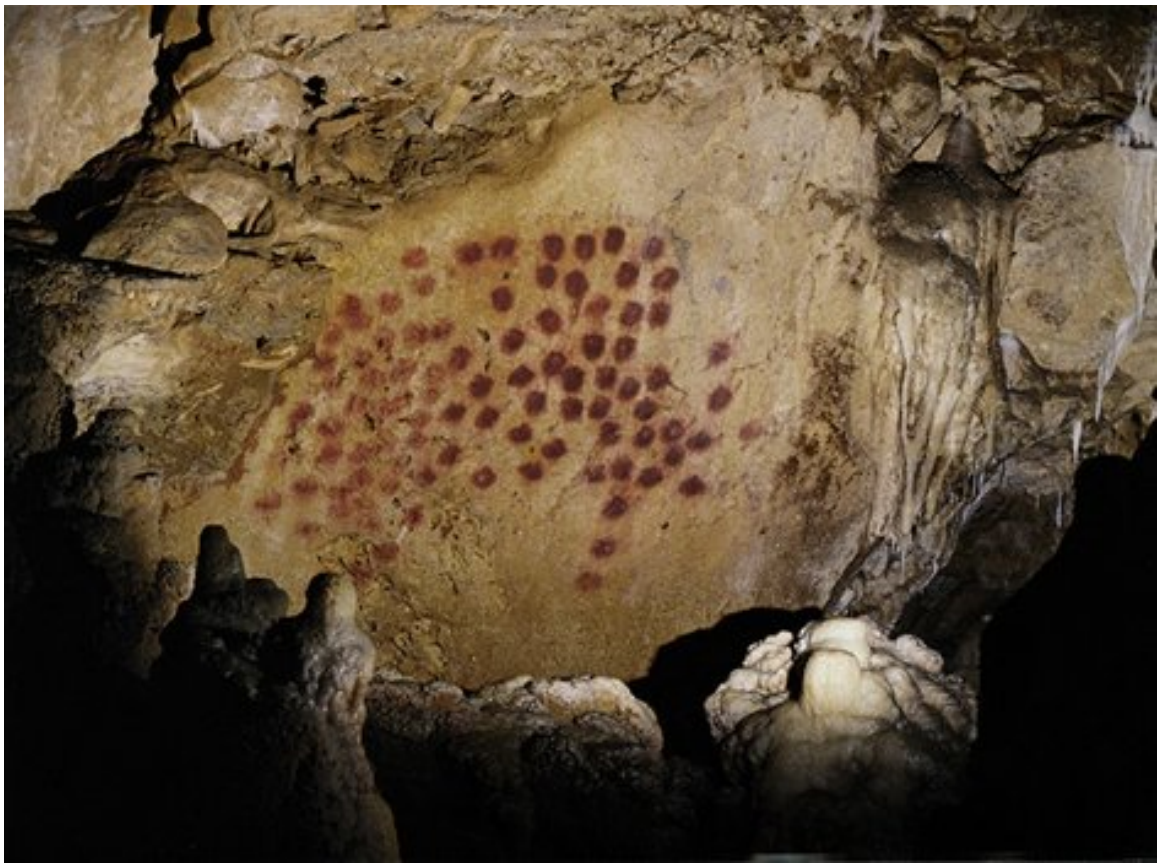

Figure 5-1. Panel of red dots, Chauvet-Pont-d'Arc, Ardèche.

[201] Iegor Reznikoff, "On Primitive Elements of Musical Meaning," *Journal of Music and Meaning* 3, section 2 (Fall 2004/Winter 2005): 12, accessed January 6, 2011, http://www.musicandmeaning.net/issues/showArticle.php?artID=3.2.

In the course of experiments conducted by Reznikoff and Michel Dauvois, previously unknown paintings and signs were discovered by investigation of the acoustics of cave sites. At Le Portel, for instance, Dauvois discovered paintings at resonant spots within the cave.[202] Reznikoff also discovered two red dots in a niche with a Camarin effect (discussed below). These dots mark sounding stalactites in an area of Oxocelhaya cave where no paintings or symbols had previously been discovered. These discoveries again strongly support the hyphothesis that sound and imagery were intrinsically connected.

Reznikoff's experiments resulted in three primary conclusions. First, the majority of cave paintings are placed within one meter of points of greatest resonance.[203] This conclusion has been confirmed at Le Portel and Niaux, where paintings decorate approximately ninety percent of the resonant locations. Second, most of the resonant points correspond to locales decorated with cave paintings. In fact, the best points of resonance are always marked with a painting. Third, the placement of some paintings can be explained only by the resonance at that location. Some paintings, for instance, are positioned at particular resonant points, but are not easily visible. Other points of

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[202] Reznikoff, "Prehistoric Paintings, Sound and Rocks," 44.

[203] Iegor Reznikoff, "Sound Resonance in Prehistoric Times: A Study of Paleolithic Painted Caves and Rocks," *Journal of the Acoustical Society of America* (2008): 4140. See also Reznikoff, "On the Sound Dimension," 546-47.

resonance were painted with red dots, particularly when the dimensions of the cave did not allow for a larger painted image.

At Le Portel there is further evidence that sound was an important experiential feature of Paleolithic cave sites. There is a bison painted in black ink in a chamber called the Galerie Jeannel. This painting is significant in that the bison is situated at the boundary between two sections of the gallery. The larger section is approximately twice the size of the smaller one, and while the narrower part of the chamber is considerably resonant (with 111 Hz the principal resonance), the larger section is not. The bison is 1.2 meters long, and its head is turned toward the right, toward the opening of the gallery. The most resonant location in the chamber is located 55 cm to the right of the bison's head, and the bison's head is turned to this spot, where the gallery opens from the narrow section to the wider.[204] While the bison is painted in a part of the gallery that is not marked by resonance, the animal looks toward the most resonant part of the chamber, indicating that acoustic properties of the caves was linked to the placement of paintings. The interaction between the painted animal and the resonant section of the gallery suggests that sound was significant in the caves. Moreover, the bison's turning its head in this manner implies that sound was created in the cave in association with the painting of the animal. It seems that sound manifested the life force, somehow bringing the bison to life, as it turns its attention to it.

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[204] Reznikoff, "Prehistoric Paintings, Sound and Rocks," 44.

Further attention to acoustical phenomena is seen in certain representations of animals painted on the cave walls. Sometimes, lines or dots emanating from the mouth of a painted animal are included when the image is located where there is an echo.[205] The lines and dots appear to symbolize the sound emitted by the animal, which may have been reproduced aurally by means of the Camerin effect or by the implementation of sound-producers.

Reznikoff comments upon the bodily experience when a resonant location within a cave is set to vibrating. At resonant spots marked by red dots, a soft *hm* at a given pitch creates strong vibration. "(T)he whole of the body vibrates or rather co-vibrates with the gallery, it is like an identification, a deep communion with earth, stone and the mineral elements of Creation. It is what … I called the earth or mineral meaning of sound."[206]

Niches as well as certain hollows in the cave floors resonate strongly, producing low-pitched sounds that resemble animal sounds. The sounds of bison, reindeer, and lions are reproduced by humming into these niches and hollows. The sound produced depends upon the shape of the niche or hollow. The sounds fill the entire gallery in which the hollow or niche is located. At Le Portel, within a chamber called the Galerie Breuil there is a niche called "la niche du Camarin" because of what Reznikoff calls the Camerin effect. The softest whisper into the niche results in sounds resembling the lowing of a

[205] Rault, *Instruments de Musique*, 14.
[206] Reznikoff, "On Primitive Elements," 12.

bison that resound throughout the gallery. The majority of the paintings of animals within this cave are located in the vicinity of this niche. Notably, other niches are found within the same gallery, but these do not have acoustical resonance. Perhaps as a result, there is no parietal art in the vicinity of these niches.[207] The recreation of animal sounds suggests that shamanic rituals were enacted within the caves. In these, it appears that the shaman imitated the sound of a certain animal in order to bring about the process of shamanic transformation into that particular species. Indeed, Siberian shamans imitate bird songs and animal sounds in order to identify themselves with the corresponding species and thus achieve an altered state of consciousness.[208] The paintings of animals that adorn the cave walls, as well as the numerous representations of animals in mobiliary art found within the caves, further suggest that communion with these animals was desired and achieved by means of visual art as well as sound. It appears likely that flutes, especially because of their fabrication from bird bones, were used by shamans in rituals to produce sounds mimicking bird calls as a means of transforming themselves into birds. Once achieving transformation, the shaman would have been able to experience flight to invisible realms, attaining knowledge that could be brought back to the visible realm.

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[207] Rault, *Instruments de Musique*, 19.
[208] Reznikoff, "On Primitive Elements," 12.

Chapter 6: Upper Paleolithic Art and Music

Upper Paleolithic art is perhaps the most valuable source of evidence regarding the significance and function of flutes at that time. The parietal and mobiliary art that has been discovered in conjunction with the flutes is of primary importance. The mobiliary art found in the caves of the Swabian Jura, where the oldest known flutes have been excavated, is an especially significant source allowing for the interpretation of the functions of the instruments. However, art found at archeological sites other than those where flutes have been excavated also offers significant clues regarding the use of the instruments. Certain themes in Upper Paleolithic art offer meaningful clues regarding the cultural significance and function of the flute. These include depictions of animals and therianthropic figures as well as other symbols of transformation. Two depictions of therianthropes are particularly significant in relation to the flute. The first is a painting of the bird-headed man at the site of Lascaux. The panel that includes this figure offers evidence that shamanic rituals were performed in the Upper Paleolithic era and that these were associated with birds. It is probable, therefore, that bird-bone flutes were utilized in these rituals. The second is the bison-headed man engraved at the site of Les Trois Frères. This figure is depicted holding an object usually interpreted as a musical bow. The object was initially

interpreted, however, as a flute.[209] The bison-headed man is depicted amongst numerous animals, some of which appear to be fleeing from him as he plays this instrument. This figure may be a shaman playing the flute in a ritualistic context, or he may be a hunter disguised in a bison pelt playing the flute as a means of luring or pacifying the animals he pursues. The theme of metamorphosis from human to animal form underlies the portrayal of such animal-human therianthropes.

It appears that Upper Paleolithic flutes were not merely pragmatic sound-producers, but rather instruments imbued with magical power. As such, they were likely utilized in the contexts of rituals involving transformative processes, such as rites of passage or shamanic ceremonies. Sound-producers appear to have functioned as implements of magic in two distinct capacities. They were utilized to achieve transformation or metamorphosis, and they established human control over nature. A number of Upper Paleolithic instruments are engraved with symbols or are covered in red ochre (e.g., the rhombus of Lalinde, see fig. 6-31).[210] Both the engravings and ochre appear to be indicative of the magical, transformative power of the instruments.

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[209] The French archeologist and prehistoric art historian, Abbé Henri Breuil initially interpreted the object as a flute. Only later did he consider the object as a musical bow, due to the object's asymmetry. Henri Breuil, *Four Hundred Centuries of Cave Art,* trans. Mary E. Boyle (Montignac: Centre d'Études et de Documentation Préhistoriques, 1952), 177.

[210] Engravings on the instruments are the focus of Chapter 4. The symbolic significance of the color red is discussed in Chapter 6, as is the symbolic significance of engravings resembling those on the flutes in Upper Paleolithic parietal art and on mobiliary art objects.

The oldest art in the world is preserved within Chauvet cave (Chauvet-Pont-d'Arc), in the Ardèche region of south-central France. There are approximately two hundred caves in southern France and northern Spain in which cave paintings from the Upper Paleolithic period have been preserved. Chauvet is unique because the oldest of these paintings are found there and these have been remarkably well preserved due to a prehistoric landslide that sealed its entrance millenia ago. Although no flutes have been found at Chauvet, the art discovered there is pertinent to the investigation of Upper Paleolithic flutes as it constitutes the earliest surviving remnants of that culture. Chauvet also provides important evidence regarding the interrelationship of sound and visual images within Upper Paleolithic caves.

The floors of most Upper Paleolithic cave sites have not been preserved, especially those discovered and excavated at the beginning of the twentieth century. The floor of Chauvet, however, was carefully preserved following the discovery of the cave in 1994. As the site was not excavated according to the methods of traditional archeology, it is possible that flutes lie undiscovered below the floor of the cave. No human bones have been found within the cave, and it is clear that it was not inhabited. As such, it is likely that the cave was used for the enactment of rituals, and it appears that these rituals were of a sacred or shamanic nature.

Thousands of animals bones have been preserved within the cave. These include the bones of approximately forty cave bears that have been

cemented to the floor by dripping, limestone-rich water. There are also perfectly preserved footprints of cave bears intermingled with human footprints.[211] In the deepest gallery of the cave, there is a large limestone block with a cave bear skull placed on top of it.[212] The deliberate placement of the bear skull upon this block implies that ritual – if not religious activity – associated with the cave bear took place inside the cave. This theory is supported by the large number of bear bones within the cave, the presence of bear footprints, and numerous paintings of bears on the cave walls.[213]

Traditional radiocarbon dating has indicated that most of the art in Chauvet is between 30,000 and 32,000 years old. However, recently developed U-series dating techniques have been used to show that some charcoal paintings date to 37,000 years ago.[214] It is nearly twice as old as any previously discovered art. Over four hundred paintings have been catalogued. There are paintings of at least thirteen different species, some of which are not depicted in any other Upper Paleolithic art. The paintings include animals that were hunted. These are commonly depicted, with paintings of these species found at numerous Upper Paleolithic cave sites. There are also paintings of predatory animals, including cave lions, bears, owls, cave hyenas, and panthers. Depictions of predatory species such as these are relatively

[211] Sandy Fritz, "Found: Wonders in a Secret Cave," *Popular Science* (June 1995), 95.
[212] Ibid., 95.
[213] Ibid., 96.
[214] U-series dating refers to Uranium-thorium dating, which is a dating technique used to determine the age of calcium carbonate materials. This technique may be used to date materials up to approximately 500,000 years old.

uncommon in Upper Paleolithic art. There are also panels of hand prints and hand stencils made by blowing ochre pigment over a hand as it was pressed against the wall of the cave. Abstract symbols, including lines and dots, are found throughout the cave. As suggested by Reznikoff, red dots on the cave walls may have marked resonant locations.

At Chauvet, many of the paintings and engravings on the cave walls are depictions of bison, bulls, and horses, all commonly represented in Upper Paleolithic art. However, the dominant image at Chauvet is the woolly rhinoceros, which is rarely seen elsewhere. The second most common image at Chauvet is the lion. Both of these animals were fierce and dangerous. Other dangerous animals depicted on the cave walls include a spotted leopard and the numerous depictions of cave bears.[215] These constitute depictions of power animals, which in some way held symbolic significance within Upper Paleolithic culture, according to prehistoric art historian Denis Vialou.[216] Perhaps visual representations of such animals allowed for humans to acquire the animals' power, most likely through the enactment of rituals.

The art in Chauvet was placed in the darkest recesses of the cave. The main entry chamber would have been illuminated by sunlight during the Upper Paleolithic period. It is significant that there is no art in this chamber,

[215] Ibid., 104.
[216] Ibid., 104.

except at the complete end of the chamber, in the darkness.[217] All of the other paintings in the cave are located in chambers that were not naturally illuminated. The placement of the paintings in the darkest parts of the cave is evidence that these paintings were not viewed as public art. Rather, the paintings were hidden in the deepest chambers of the cave. The function and meaning of these paintings were intricately linked with their placement. Vialou interprets the paintings at Chauvet, and those at other Upper Paleolithic cave sites lacking evidence of occupation, as a collection of sacred symbols. These caves were secret sites in which sacred symbols were painted in order to solidify, preserve, and protect them.[218] In considering the function of the paintings, we must remember that the paintings were both painted and viewed within these dark chambers, with the illumination of only fires and torches. The location of the paintings in these innermost chambers suggests that the cave was utilized in a ceremonial context, in which the rituals were enacted within the dark recesses of the cave, hidden from public view.[219]

The superimposition of images in Chauvet further suggests that the paintings may have been created in ritual contexts. Two of the paintings in the cave, near the Panel of the Horses (fig. 6-1)[220] located in the Hillaire chamber, are superimposed one above the other. Radiocarbon dating has been

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[217] Werner Herzog, Director, *Cave of Forgotten Dreams*, Creative Differences, History Films, Ministère de la Culture et de la Communication, 2010.
[218] Fritz, "Found: Wonders," 106.
[219] Herzog, *Cave of Forgotten Dreams*.
[220] Photo courtesy of the French Ministry of Culture and Communication, Regional Direction for Cultural Affairs, Rhône-Alpes region, Regional Department of Archeology.

used to establish the dates of the two paintings. The second of the two paintings was created 5,000 years after the first.[221] This is significant for a number of reasons. First, this dating establishes that the cave was utilized by humans over many thousands of years. Not only was the cave utilized over the course of many millennia, it was utilized for the same purpose – a painting was made upon the wall 5,000 years later than the first, in the same style and, it can be deduced, with the same intention. The implication is that if the paintings were made in ritual contexts, these appear to have involved similar activities over many thousands of years. Finally, the second painting overlaps the earlier painting, evidence that the earlier painting was not perceived as an *objet d'art* in the modern sense. Rather, it seems that in Upper Paleolithic art such as this, it was the human process of creating the art, rather than the artistic image itself, that gave the art its meaning. This creative process may have been an important component of ritual activity conducted within the cave.

[221] Herzog, *Cave of Forgotten Dreams*.

Figure 6-1. Panel of the Horses, Chauvet-Pont-d'Arc.

Near the Panel of the Horses, a bison is painted with eight legs (fig. 6-2).[222] Perhaps, animals such as this bison appeared living and moving as a result of the play of light and shadow from torches or hearths lit within the cave. The bison's eight legs indicate movement just as the multiple horns of a rhinoceros seem to indicate that the rhinoceros is shaking its head (fig. 6-3).[223] Remnants of fires on the floor of the cave and the scorch marks of torches left on the cave walls suggest that this may have been the case.[224]

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[222] Photo courtesy of the French Ministry of Culture and Communication, Regional Direction for Cultural Affairs, Rhône-Alpes region, Regional Department of Archeology.
[223] Photo courtesy of the French Ministry of Culture and Communication, Regional Direction for Cultural Affairs, Rhône-Alpes region, Regional Department of Archeology.
[224] Herzog, *Cave of Forgotten Dreams*.

Figure 6-2. Running bison with eight legs, Chauvet-Pont-d'Arc.

Figure 6-3. Rhinoceros with multiple horns, Chauvet-Pont-d'Arc.

The imagery in Chauvet invokes a sonic experience. The animals depicted on the cave walls seem to become audible to us. The invocation of sound by visual representation was a significant feature of the art of Chauvet. The open mouths of the horses become the whinnying of the horses. We can imagine the sound of the horns clashing as two rhinoceroses fight (fig. 6-4).[225] We seem to hear the sound of a bison's hooves as it runs.[226] Additionally, there is the painting of a male lion attempting to mate with a female who is

[225] Photo courtesy of the French Ministry of Culture and Communication, Regional Direction for Cultural Affairs, Rhône-Alpes region, Regional Department of Archeology.
[226] Herzog, *Cave of Forgotten Dreams*.

not acquiescent and who is depicted with her mouth open, growling (fig. 6-5).[227]

Figure 6-4. Fighting rhinoceroses, Chauvet-Pont-d'Arc.

[227] Herzog, *Cave of Forgotten Dreams*. Photo courtesy of the French Ministry of Culture and Communication, Regional Direction for Cultural Affairs, Rhône-Alpes region, Regional Department of Archeology.

Figure 6-5. Growling lioness, Chauvet-Pont-d'Arc.

On a pendant (stalactite) in the deepest chamber of the cave, there is a painting of a chimerical figure comprised of the lower body of a woman and the head of a bison (fig. 6-6).[228] In this image, we see the human and animal forms of life in union. The female's pubic triangle and parted legs are depicted, and the bull seems to engulf her. In this image, the motif of

[228] Photo courtesy of the French Ministry of Culture and Communication, Regional Direction for Cultural Affairs, Rhône-Alpes region, Regional Department of Archeology.

sexuality and fecundity are integrated with the motif of human-animal synthesis. There are other male-female pairs in the paintings in Chauvet. There is the pair of cave lions shown walking side by side. The genders of the two animals are evident; the female is smaller than the male, and the scrotum of the male is clearly depicted. There is also the painting of the male cave lion approaching the growling female mentioned above.

Figure 6-6. Lower body of woman and bison head, Chauvet-Pont-d'Arc.

It appears that the colors used in the paintings held symbolic meaning. There are two principal colors used in the paintings – red and black. As previously mentioned, red appears to be symbolic of life. On the other hand, black appears to be a symbol of the blackness of the grave and death.[229] Moreover, these colors are associated with specific animals and symbols. Paintings in the main entry chamber are primarily in red ochre, while those of the deepest chamber are primarily black, made with charcoal. There are further patterns and restrictions in the use of color within the cave. Red is used primarily in paintings of bears. Mammoths, horses, and rhinoceroses are also often painted in red. Abstract symbols, including dots, dashes, and checkerboard patterns, are also painted with red pigment. Notably, these signs appear at divisions between parts of the cave and seem to mark changes in animal groupings in the paintings.[230] The apparent color symbolism again suggests that the cave was a sacred site and the images painted on its walls were sacred symbols.

While the oldest cave paintings are found at Chauvet, the oldest surviving mobiliary art has been discovered in the Swabian Jura of southern Germany. The oldest known flutes, all dating to the Aurignacian, have also

[229] Simona Petru, "Red, black or white? The dawn of colour symbolism," *Documenta Praehistorica* XXXIII (2006): 206.
[230] Fritz, "Found: Wonders," 104.

been excavated at these sites.[231] The cave sites of the region include Höhle Fels, Geissenklösterle, and Vogelherd. The mobiliary art that has been excavated at these sites holds significant clues regarding the function of flutes at the dawn of the Upper Paleolithic era. One sculpture unearthed at Höhle Fels, known as the Venus of Höhle Fels (fig. 6-7),[232] is particularly important as it was found in close proximity to three flutes recently discovered at the site. In addition, this figurine is the oldest known representation of a human and one of the oldest pieces of representational art in the world.[233] The Venus of Höhle Fels is certainly more than 35,000 years old, and is most probably close to 40,000 years old. The figurine could well be the oldest specimen of figurative art in the world.[234] Before the discovery of this figurine, it was thought that representations of humans were first created during the late Aurignacian era. Further, it was thought that similar Venus figurines were not created until the much later Gravettian era. The discovery of the Venus of Höhle Fels has spurred archeologists and art historians to reassess the development of art in human history.

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[231] See Chapter 3.

[232] Nicholas J. Conard, "A Female Figurine from the Basal Aurignacian of Höhle Fels Cave in southwestern Germany," *Nature* 459 (2009): 248. Photo by H. Jensen, copyright Universität Tübingen.

[233] Ibid., 250.

[234] Ibid., 250-51.

Figure 6-7. Side and front views of the Venus of Höhle Fels.

It is notable that some of the oldest flutes discovered to date were found in close proximity to the Venus of Höhle Fels. Such Venus figures appear to be symbols of female fertility, and the discovery of the instruments near the Venus of Höhle Fels is an indication that the flute was also associated with fertility. The question arises as to whether the flute was also associated with female fertility. This is one possibility. The other is that the flute was the Venus figurine's masculine counterpart, associated with male fertility. One of the Höhle Fels flutes, designated Höhle Fels flute 1, was found in a thin archeological horizon only 70 cm away from the Venus.

The close proximity of flute 1 and the Venus suggests a contextual link between the two artifacts.[235] The flutes designated as Höhle Fels flute 2 and Höhle Fels flute 3 were also found nearby, within 1.5 meters of the figurine (fig. 6-8).[236] The Venus is a female figurine sculpted from mammoth ivory. The figurine is a so-called Venus figurine, a sculpture of a woman with exaggerated breasts, buttocks, and genitalia. The Venus of Höhle Fels is 59.7 mm tall, 34.6 mm wide, and 31.3 mm thick.[237] The head is absent and replaced by a ring showing evidence of polish, indicating that the figurine was probably a personal possession that was suspended and worn as a pendant, a theory supported by the small size of the figurine. Hundreds of Venus figurines dating to the Upper Paleolithic have been found. Most have been discovered in Europe, although some have been found as far east as Siberia. Most have been found at habitation sites. Many theories have been advocated regarding the function of these figurines. They may be realistic representations of individual women, depictions of a goddess figure, or talismans. The exaggerated breasts, buttocks, and genitalia are features of most figurines. These attributes have led most scholars to the conclusion that the Venuses were in some regard associated with fertility. The discovery

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[235] Nicholas J. Conard, Maria Malina, and Susanne C. Münzel, "New Flutes Document the Earliest Musical Tradition in Southwestern Germany," *Nature* 460 (August 6, 2009): 740.
[236] Conard, "A Female Figurine," 249.
[237] Ibid., 250.

of three flutes in close proximity to the Venus of Höhle Fels does not only suggest that the flute was connected with fertility. The exaggerated anatomical features of the Venus figurine may have been considered erotic. In this case, the flute would have been linked to sexuality as well as fertility. The deposition of these artifacts together in the deepest Aurignacian level at Höhle Fels suggests that a significant connection between music, art, and fertility existed by at least 38,000 to 40,000 years ago. The discovery of the Höhle Fels flutes in association with the Venus points to the possible association of Upper Paleolithic flutes with female fertility. On the other hand, the flute may have been symbolic of male fertility (a possibility suggested by the phallic shape of the instrument as well as ethnographic evidence that will be discussed in the following chapter) and placed with the Venus figurine to symbolize male-female union.

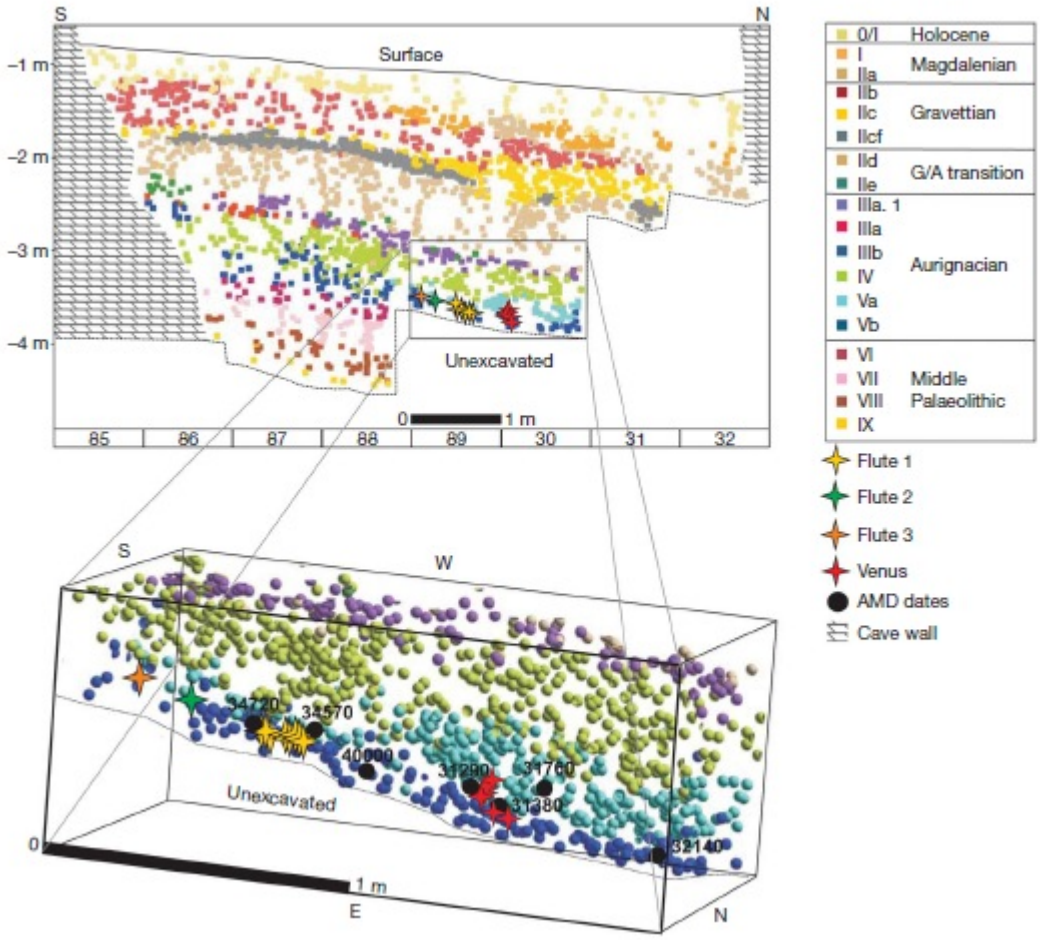

Figure 6-8. Stratigraphic positions of flutes 1 – 3 and Venus from Höhle Fels and associated radiocarbon dates. AMD dates are dates determined by means of accelerator mass spectrometry. Accelerator mass spectometry dates are in noncalibrated years before the present.

Other pieces of mobiliary art have been excavated at Höhle Fels. These include ivory sculptures of a horse, a bird, and a lion-human therianthrope. An ivory figurine depicting an animal head was found at the transition between Aurignacian and Gravettian levels, and a fragmentary ivory relief depicting what appears to be a bird was discovered in Aurignacian

levels.[238] Ivory sculptures of a bear, a mammoth, and a bovid, as well as an anthropomorphic image carved in relief, have been discovered at Geissenklösterle, and ivory sculptures discovered at Vogelherd include representations of an anthropomorph, three felids, a bovid, two mammoths, and a horse.[239] Ivory figurines such as these appear to have been restricted to the Swabian Jura during the Aurignacian period. [240] It is significant that Aurignacian flutes fabricated from mammoth tusk ivory were restricted to this region as well.

The sculpture of the lion-man therianthrope discovered at the site of Höhlenstein-Stadel is known as the lion-man of Höhlenstein-Stadel (fig. 6-9). This 28-cm tall sculpture has been dated to the Aurignacian period and is approximately 30,000 to 32,000 years old. [241] The figurine is a depiction of a therianthropic figure with a human male body and an elaborately carved head of a lion.[242] Although no flutes have been found in this cave, this therianthropic figure yields clues regarding the significance of the flute within the culture of the region. The combination of human and animal elements is a

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[238] Michael Bolus, "The Cultural Context of the Aurignacian of the Swabian Jura," in *Trabalhos de Archeologia* 33. *The Chronology of the Aurignacian and of the Transitional Technocomplexes: Dating Stratigraphies, Cultural Implications*, eds. Francesco d'Errico and João Zilhão, proceedings of Symposium 6.1 of the XIVth Congress of the UISPP at University of Liège, Belgium, September 2-8, 2001 (Lisboa: Instituto Português de Arqueoogia, 2003), 159.
[239] Nicholas J. Conard, "Palaeolithic Ivory Sculptures from Southwestern Germany and the Origins of Figurative Art," *Nature* 426 (December 2003): 832.
[240] Martha Bright, Frederick Coolidge, and Thomas Wynn, "Höhlenstein-Stadel and the Evolution of Human Conceptual Thought," *Steps Toward a 'Neuroarchaeology' of Mind, part 2, Special Section, Cambridge Archaeological Journal* 19, issue 01 (2009): 75.
[241] Ibid., 74-75.
[242] Ibid., 74.

recurring theme in Upper Paleolithic art. The right arm and foot of the figurine are missing. Several notches are visible on the upper left arm and around its ears. The sculpture was found at the very back of the cave with other ivory figurines and ornaments nearby.[243] Of particular note are the series of notches engraved on the arm of the figure. These closely resemble the series of parallel notches engraved on a number of Upper Paleolithic flutes. As they are not realistic depictions of features of human or lion anatomy, the notches appear to be symbolic markings, similar in nature to those on the flutes. A second man-lion therianthope depicted in an ivory figurine similar to the Höhlenstein-Stadel figurine was discovered at the site of Höhle Fels (fig. 6-10).[244] This figurine is smaller, less than one-tenth the height of the figurine from Höhlenstein-Stadel.[245] These human-lion therianthropes are examples of the themes of animal-human synthesis and transformation that is prominent in Upper Paleolithic art and culture throughout Europe. The remarkable similarity between markings on flutes and these therianthropic statues points to similarity in their meanings. Were the parallel notches on the instruments also symbols of transformation?

Nicholas Conard, who has led the excavations at the sites in the Swabian Jura, has suggested that these two therianthropic sculptures support

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[243] Ibid., 74.

[244] Susanne Rau, Daniela Naumann, and Martina Barth, eds., *Eiszeit – Kunst und Kultur. Begleitband zur Großen Landesausstellung Eiszeit - Kunst und Kultur im Kunstgebäude* (Stuttgart: Thorbecke Verlag, 2009), 396.

[245] Bright, Coolidge, and Wynn, "Höhlenstein-Stadel and the Evolution," 75.

the hypothesis that shamanism was practiced during the Aurignacian era. Figures such as these, and the implicated ritual practices, are evidence that by the beginning of the Aurignacian era people utilized symbolic communication, which archeologists typically consider an indicator of cognitive ability equaling our own.[246] The discovery of eight Aurignacian flutes in the Swabian Jura, where evidence of a sophisticated artistic tradition has been found, reveals the existence of an artistic tradition involving music as well as the plastic arts in the region. The discovery of art at the same sites where the flutes have been excavated suggests that in the Aurignacian culture of the Swabian Jura musical and visual expression derived from the same source. The Höhle Fels flute found in close proximity to the Venus of Höhle Fels is evidence that the cultural significance and functions of the two artifacts are related. Furthermore, the resemblance of symbolic markings on the lion-man of Höhlensten-Stadel to those on numerous Upper Paleolithic flutes has significant implications.[247] As similar markings are found on flutes (see fig. 6-11) and on this therianthropic figurine, they connect the process of animal-human transformation with the instruments. Perhaps the flute was utilized in rituals involving the process of transformation from human to animal form, such as shamanic ritual, in which the shaman is transformed into an animal species in order to undertake a shamanic journey.

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[246] Ibid., 75.

[247] Similar markings are found on flutes not only from the Swabian Jura, but also from numerous sites as far west as the Pyrénées-Atlantiques (i.e., Isturitz).

Figure 6-9. Human-lion figurine from Höhlenstein-Stadel, Swabian Jura.

Figure 6-10. Lion-man figurine from Höhle Fels, Swabian Jura.

Figure 6-11. Engravings on Gravettian flute from Isturitz, Pyrénées-Atlantiques, Musée d'Archéologie Nationale, Saint-Germain-en-Laye, catalogue number Isturitz 75 252 A2 IF 3 α 1914.

Animals were painted on the walls of numerous caves throughout Europe during this period. In addition to paintings of animals on the cave

walls, numerous portable artifacts were engraved with depictions of animals. Images of animals were sculpted in *bas-relief* and in three dimensions. The species most commonly depicted are horses, bison, mammoths, deer, ibexes, reindeer, boars, bears, felines, rhinoceroses, and fish. The cave may have been experienced as the womb of the Mother or the Earth in Upper Paleolithic culture, and the painting of animals on the walls of the symbolic womb would have then been more than a figurative representation of an animal. The act of painting animals on the walls of the cave would have been an act in which life was symbolically bestowed upon that animal. The ubiquity of such animal representations demonstrates the importance of animal life in Upper Paleolithic culture. Reverence for, as well as dependence upon, animal species for survival is implied in the prominence of animals in Upper Paleolithic art and in the quality of this art. Upper Paleolithic flutes, as they are constructed from animal sources (i.e., mammoth tusk or bird bones), are also connected with animal life. Reverence for these animals is further suggested in the fabrication of musical instruments from parts of their bodies.

Transformation is seen also in the cave depictions of therianthropic figures. Figures of men wearing antlers or horns on their heads reappear in Upper Paleolithic art. Four of these figures are clearly depicted and thus significant: the Sorcerer at the site of Les Trois Frères in the Ariège department of France, the bison-man holding an object most often identified as a musical bow at the same site, the bison-man at the site of Le Gabillou in

the Dordogne, and a therianthropic figure engraved on a plaquette from Lourdes. The Sorcerer is a Magdalenian painting (75 cm tall and 50 cm wide) of a composite creature with antlers, the eyes of an owl, the tail of a wolf or horse, the ears of a wolf, bear paws, and human feet and phallus (fig. 6-12).[248] The Sorcerer is located at the innermost recesses of the cavern of Les Trois Frères, a chamber called the Sanctuary. The Abbé Breuil considered the Sorcerer the god of the cave of Les Trois Frères. Of all of the engravings in the Sanctuary, the Sorcerer is the sole figure painted in black. He is depicted with a full face with round eyes. The forearms are raised and joined horizontally, with outstretched fingers, colorless and almost invisible, outstretched. A wide black line outlines the entire body. The Sorcerer is painted four meters above the floor in a location that can only be reached by means of a hidden corridor that spirals upward. He presides over animals depicted around him. The Sorcerer may be a depiction of a shaman represented in the process of assimilating the characteristics of various animals during shamanic ritual. It appears that the figure is dancing, suggesting his participation in a ceremony with music. If this figure is in fact a representation of a shaman, the location of the painting within the cave of Les Trois Frères implies a connection between shamanism during the Upper

[248] Henri Breuil, *Four Hundred Centuries of Cave Art,* trans. Mary E. Boyle (Montignac: Centre d'Études et de Documentation Préhistoriques, 1952), 166.

Paleolithic and the caves in which this and other paintings (in addition to mobiliary art and musical instruments) have been discovered.

Two thick antlers rise from a black band painted across the Sorcerer's forehead. He has a long beard falling onto his chest. The Sorcerer's prominent phallus, large antlers, and long beard emphasize his masculinity. As music most probably accompanied the Sorcerer's dance, we can infer connections between music and the most striking aspects of this figure, namely metamorphosis into animal form and masculinity. The Sorcerer's masculinity and virility thus become associated with music, as do the processes of transformation, metamorphosis, and synthesis that occur as various animal species merge in the therianthropic figure. There is another therianthropic figure engraved on a plaquette discovered at the site of Lourdes that closely resembles the Sorcerer. Like the Sorcerer, this figure is bearded, has a tail (that of a horse), and wears antlers.[249] The themes of transformation, masculinity, and virility are again combined in this image.

[249] André Leroi-Gourhan, *Treasures of Prehistoric Art* (New York: Abrams, 1967), 132.

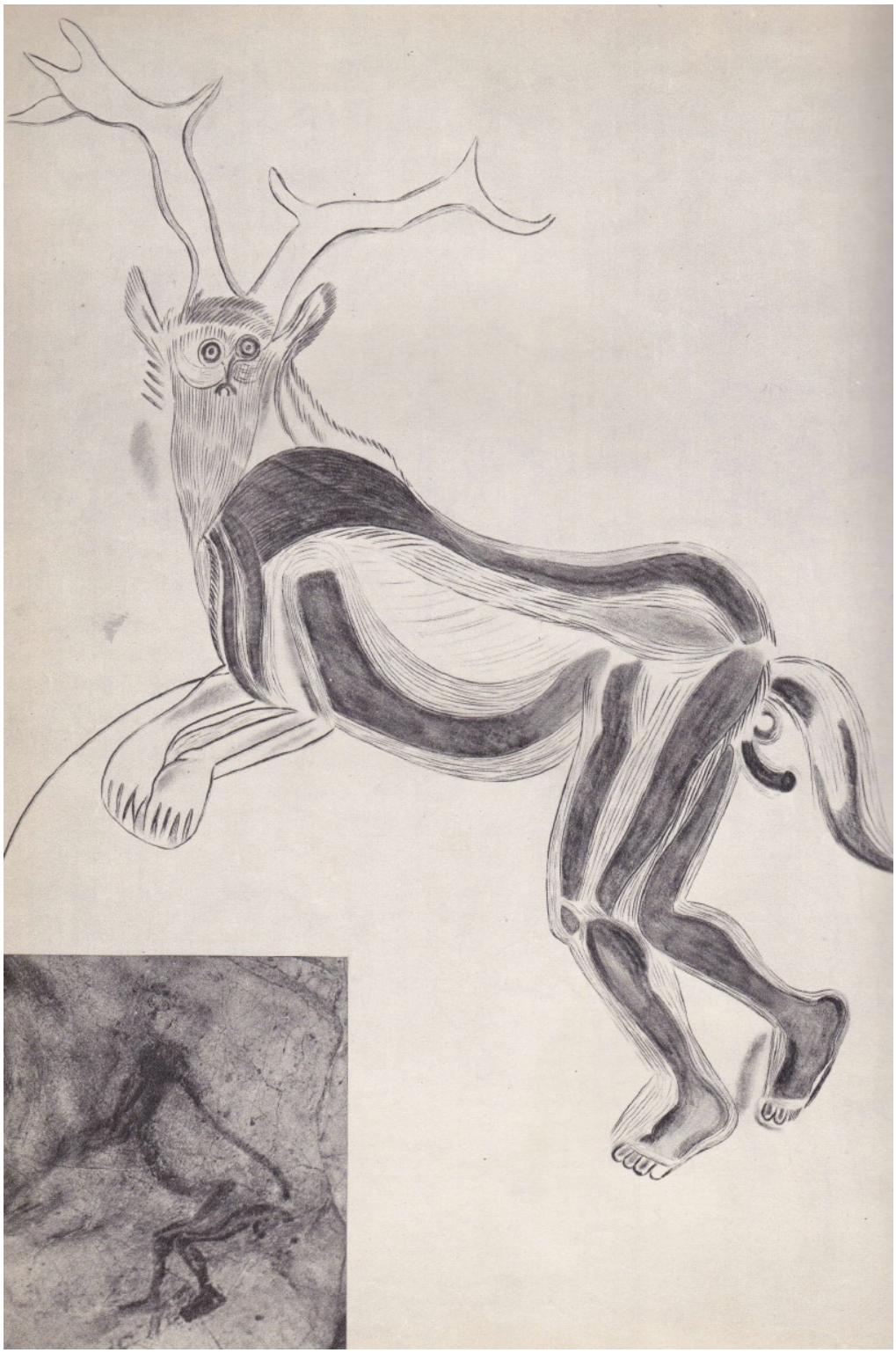

Figure 6-12. The Sorcerer of Les Trois Frères, Ariège. Drawing by Henri Breuil.

Another well-known representation of a male-animal therianthrope that is an important source of information regarding the function of flutes is that of a bison-headed man engraved on the lower wall of the Sanctuary. The bison-headed man (fig. 6-13)[250] at the center of a large composition measuring 2.55 meters in length. The figure appears to be a man wearing the pelt of a bison, including the bison's head and horns and the back of the pelt extending through the tail. The animal's pelt runs all along the back of the figure and ends in a long tail lying along the left thigh. The man's arms end in bison hooves. The legs, however, are those of a man. The figure has a human-like waist, and the left leg is bent at the knee and raised as if the figure is dancing. This therianthrope is located within a larger panel depicting a plethora of animals, including bison, horses, and ibex (figs. 6-14 and 6-15).[251] Directly in front of the bison-headed man, a composite animal with a bison head and the body of a female reindeer, turns to look at him.[252]

[250] Breuil, *Four Hundred Centuries,* 172.
[251] Ibid., 172-73.
[252] Ibid., 170.

Figure 6-13. Bison-man with musical bow from Les Trois Frères, Ariège.

Figure 6-14. Panel with bison-man with musical bow (left side) from Les Trois Frères, Ariège.

Figure 6-15. Panel with bison-man with musical bow (right side) from Les Trois Frères, Ariège.

The bison-headed man of Les Trois Frères is significant in that this is the sole representation of a figure that appears to be playing a musical instrument. The bison-man's arms (or front legs) extend forward, and the right arm, although it ends with a hoof, appears to hold or support an object held to the nose or mouth of the figure. The object may be a hunting bow, a possibility suggested by the stag that seems to be running away (toward the left side of the composition) and the animal just in front of the bison-man, who is running and seems to look back at him in fear. However, the object is more commonly interpreted as a musical instrument. There has been some debate, however, regarding the type of musical instrument depicted in this image. The instrument, with two lines – one straight and one curved, is often referred to as a musical bow by art historians. The drawing that the Abbé Henri Breuil made of the engraving is not an exact reproduction of the engraving, however, and the common reproduction of his drawing has led to confusion regarding the identity of the object the bison-man holds. Breuil originally thought that the object was a flute, and Charles Absolon shared this opinion.[253] It was later, after Breuil saw the musical bow played in South Africa, that he reinterpreted the object as a musical bow. One plucks the string of the bow to create the sound while one extremity of the instrument is held in the mouth, which serves as a resonating cavity. It is Breuil's

[253] Michel Dauvois, "Les Témoins Sonores Paléolithiques Extérieurs et Souterrains," in *Sons Originels: Préhistoire de la Musique,* ed. Marcel Otte, proceedings of a conference at Liège, Belgium, December 11-13, 1992 (Liège: Université de Liège, 1994), 16.

reinterpretation of the object as a musical bow that has been perpetuated.[254] In the engraving at Les Trois Frères, however, the object is clearly not inserted in the mouth, which is closed. If it is an instrument, it may be a vertical flute or a nose flute.[255] Gregory Curtis has speculated that the composite bison-deer figure that looks back at the bison-man in the panel is either attracted to or alarmed by the sound of the flute.[256] This painting suggests the possibility that the flute was utilized in hunting, perhaps as a means of luring or pacifying animals.

It appears that the bison-headed man is in communication with the animals that surround him and that he may have a certain power over them, ostensibly a direct result of the flute music. The figure may be a man dressed in a bison pelt as a means of disguising himself during the hunt or in the context of a ritual involving music and dance and somehow related to the bison as well as the animals depicted about the man. A herd of reindeer flees from the approaching man. It is possible that the instrument was used to imitate the calls of the animals the man pursues. Whether the panel is a realistic depiction a hunting scene or ritual or is symbolic in nature, the man joins the herd in a magical dance. He is transformed into the hunted animal by wearing the pelt of the animal, and perhaps, by auditory means as well

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[254] Ibid., 16-17.
[255] The nose flute is found in many cultures throughout the world and is most likely an instrument of ancient origins.
[256] Gregory Curtis, *The Cave Painters: Probing the Mysteries of the World's First Artists* (New York: Alfred A. Knopf, 2006), 181-82.

(i.e., utilizing the instrument to imitating the animals' calls).[257] This ritual communion with the victim justifies the hunt, making the hunt a sacrificial act.[258]

This panel suggests that music and dance were linked to animal life, as attested by the representation of numerous animals in association with the dancing, instrument-playing shaman and the therianthropic attributes of the shaman himself. Both this bison-headed man and the Sorcerer are accompanied by numerous depictions of a variety of animal species. The abundant representations of animals in association with both figures points to the significance of the relationship between humans and these animals. One feels that the animals were deeply respected, and potentially worshipped. Perhaps the images of the animals on the cave walls and the images of the therianthropic figures – potentially shamans – were painted and engraved on the cave walls in conjunction with ceremonies or rituals in which these human-animal relationships were maintained, nurtured, honored, or celebrated. Perhaps flutes were played during the enactment of these ceremonies, a possibility suggested by their discovery within caves and their fabrication from parts of animals' bodies.

The animal and human imagery imply a correlation between transformation and music. The man appears to have metamorphized into the

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[257] Lucie Rault, *Instruments de Musique du Monde* (Paris: Éditions de La Martinière, 2000), 20.
[258] Ibid., 20.

form of a bison. The animal immediately to his left is a composite animal, implying metamorphosis from one species to another. The various animal activities depicted imply the changing of the seasons. The sound of the bison-man's musical instrument is at the center of the panel and seems to bring about these changes.

The panel as a whole is characterized by a certain level of abstraction. Neither the depictions of the animals nor the spatial and temporal aspects of the art are realistic. The animals are superimposed on each other. There are detached heads (e. g., the ibex head at the upper right of the panel) and legs (e.g., to the left and lower right of the bison-headed man). In addition, abstract symbolic male and female imagery is included in the composition. A number of faces are hidden in the tangle of animals, which are superimposed upon each other. The level of abstraction in this art implies that its purpose is the communication of information through the means of images and symbols, rather than the literal representation of animals and humans.

There seems to be a circular direction in the composition of the panel, with movement from the upper right, downward, and then upward toward the upper left of the panel. The circular feel of the composition is accentuated by the semicircular negative space at the top of the panel. It seems that the circular movement of the composition corresponds to a movement through the season of the year, with the panel divided into four principal quadrants, each depicting characteristic animals and events of the season. Ibexes and one

rhinoceros, for instance, are the predominating animals in the upper right quadrant. In the lower right quadrant, two pairs of bison encounter each other aggressively, perhaps battling in competition for mates. Horses predominate the lower left portion of the panel. At the bottom of this quadrant, there appears to be a representation of grass. The bison with his horns near the bison-man's feet has his head lowered and appears to be grazing. Most of the animals in this quadrant are facing right and are more or less static. Above them, in the upper left portion of the panel, there is a reversal. Most of the animals in this quadrant are facing to the left, and they are shown in movement – running and even jumping. Two of the animals are shown with protruding tongues, as if they are calling to other animals. A wave symbol appears twice in this quadrant. It is possible that these wave-like figures are symbolic representations of water or of movement. The distinctness of each quadrant as well as the circular momentum of the composition suggests that the art is focused on the movement from one season to another throughout the year. According to this interpretation, the ibexes and rhinoceroses depicted in the upper right quadrant would be associated with that particular season. The lower right portion of the panel would depict the season in which male bison are in competition for mates. The lower left quadrant depicts a season of relative calm, in which there is grass available for the animals to graze. Finally, the season represented in the upper left quadrant is one of increased activity, and perhaps migration. The centrality of the passing seasons in the

art suggests an interest in the passing of time and in the seasonal and time-factored events of the life process.

Transformation appears to be a central theme in the panel. The superimposition of animals suggests a process of metamorphosis. The circular and cyclical nature of the composition both contribute to the impression of a process of change through time (perhaps seasonal change). This theme is seen again in the therianthropic image itself, in which bovine and human attributes are combined.

There is an overarching emphasis on the masculine in this panel, as seen in the numerous horns and antlers, in the prominent phallus of the bison-man, and in the phallic shape of the object he holds – whether it is a flute, bow, or other object. Additionally, male aggressiveness and combat are predominating themes in the lower right portion of the panel, and male symbols appear throughout the composition. Leroi-Gourhan classified series of parallel line segments as male symbols in his classification system of male and female signs in Upper Paleolithic art.[259] In this panel, series of line segments are ubiquitous and are often, although not exclusively, simultaneously employed as masculine signs and as literal representations of animals' pelts. Another male sign, a barbed symbol, marks the flank of a bison in the upper right portion of the panel.[260] Although the masculine

[259] Leroi-Gourhan, *Treasures of Prehistoric Art*, 514.
[260] Ibid., 514.

predominates, there are female symbols included in the composition. For instance, a female symbol marks the shoulder of the bison-man.[261] Leroi-Gourhan included this and other oval signs in his catalogue of female signs that appear in Upper Paleolithic art.[262] The placement of this sign on the therianthrope's shoulder brings the feminine element to this clearly masculine figure, symbolically integrating the masculine and the feminine. Other female signs, in the form of ovals, are found throughout the panel, in addition to a larger vulvar representation toward the left side of the composition. The male and female symbolism in this work emphasizes the masculine-feminine duality apparent in other elements of the art. For instance, the contrast between the masculine and feminine is also evident in the juxtaposition of the bison-man and the female composite animal immediately to his left. The genitalia of both are clearly represented.[263] The representation of these two figures may allude to sexual union, with the bison-headed male in pursuit of the female. The panel as a whole juxtaposes the male and the female and seems to point to the significance of the concurrence and integration of the masculine and feminine in the creation and sustenance of life. If this therianthrope is playing a flute, then we have evidence in this panel that the

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[261] This recalls the parallel notches that mark the shoulder of the lion-man figurine from Höhlenstein-Stadel. In both cases, the symbols are located on the left arm. Interestingly, tattoos have been traditionally placed on the left shoulder of men. Why is the left arm marked as opposed to the right? Perhaps the reason is that the left arm is closer to the heart. It is significant that all of these are male figures, suggesting that marking the left arm in this way is associated with masculinity.

[262] Leroi-Gourhan, *Treasures of Prehistoric Art*, 513.

[263] Breuil, *Four Hundred Centuries*, 176.

flute was associated with the act of procreation, and thus with life itself. As the therianthrope is male and the antlers he wears accentuate his masculinity, the flute becomes particularly associated with male virility and fertility.

The strong connection between the flute, procreation, fertility, and thus, hunting in ethnographic examples, iconography, and myths throughout the world suggests the possibility that the bison-man holds both a hunting bow and a flute. The flute and bow are elsewhere depicted together, for instance in rock art from Ameib, Namibia (fig. 6-16).[264] Depictions of hunters with flutes may be attributed to the use of the instrument in hunting magic. The two objects are also of symbolic significance in that the bow is a symbol of death, while the flute is the opposite, but balancing, symbol of life.

Figure 6-16. Rock art image of flute-player with hunting bow, Ameib, Namibia.

[264] Dennis Slifer, *Kokopelli: The Magic, Mirth, and Mischief of an Ancient Symbol* (Layton, Utah: Gibbs Smith, Publisher, 2007), 136. The date of this rock art is uncertain, but it may be up to 25,000 years old. See also Maarten Van Hoek, "Biomorphs Playing a Wind Instrument in Andean Rock Art," *Rock Art Research* 22, no. 1 (2005): 23-34.

In the engraving from Les Trois Frères, the animals circulating about the bison-man are depicted in various activities: some fighting, others running, still others peacefully grazing. Their activities seem to symbolize transformation between various phases of their lives or their changing behavior with the passing seasons. The bison-man seems to magically control these essential life phases by means of his flute-playing.

The imagery in this engraving also suggests that the flute was a magical instrument used to ensure procreation and fecundity. The bison-man's prominent, erect phallus and the enlarged and explicitly depicted vaginal opening of the animal directly in front of him portend sexual intercourse. The flute-player who frequently appears in rock art of the North American Southwest is depicted in scenes that resemble the engraving of this bison-man. The flute-player of the Southwest is associated with procreation and fertility. He, like the bison-man of Les Trois Frères, is typically depicted with an erect phallus (fig. 6-17).[265]

[265] Slifer, *Kokopelli*, 22.

Figure 6-17. Petroglyph of ithyphallic flute-player with rabbit ears, Galisteo Basin, New Mexico.

There is ethnographic evidence provided by Curt Sachs in *Geist und Werden der Musikinstrumente* that the flute in the panel from Les Trois Frères – and by extension the flute in the Upper Paleolithic generally – was connected with fertility magic. As Dennis Slifer writes:

> Abundance of animals has been associated with human sexuality [in] hunting cultures around the world. In … myths, humanity often is descended from animals, which are also the source of power and knowledge needed by humans to survive. These gifts from the animal ancestors were often granted by sexual means – giving … the hunt an identity as a form of sexual or mystical union… . Hunters among some Athabaskan groups claim that their knowledge of the animals' ways is the result of men marrying them long ago and acquiring this knowledge from their animal wives. Some Plains tribes believed humanity resulted from a sexual transfer of power between a woman and a buffalo.[266]

[266] Slifer, *Kokopelli*, 91. The Athabaskan peoples originated in southwest Canada and migrated to the American Southwest after approximately 1400 A.D. Athabaskan tribes are considered to be the ancestors of the Navajo, Apache, and other modern groups.

The imagery in the scene of the bison-man from Les Trois Frères is strongly reminiscent of myths involving the marriage of men with animal wives. The man is bison-headed and appears to have acquired his animal attributes as a consequence of his sexual union with the female animal. Furthermore, the bison-man plays the flute, which thus becomes associated not only with hunting magic, but also with the human acquisition of animal power. This, too, may be considered a magical process, one in which the flute again catalyzes the magical event. In this case, the magic involves the transfer of power from one being to another.

Figure 6-18. Petroglyphs of flute-player with plants and bighorn sheep, Basketmaker culture (ca. 1500 BC – 500 AD), Johns Canyon, Utah.

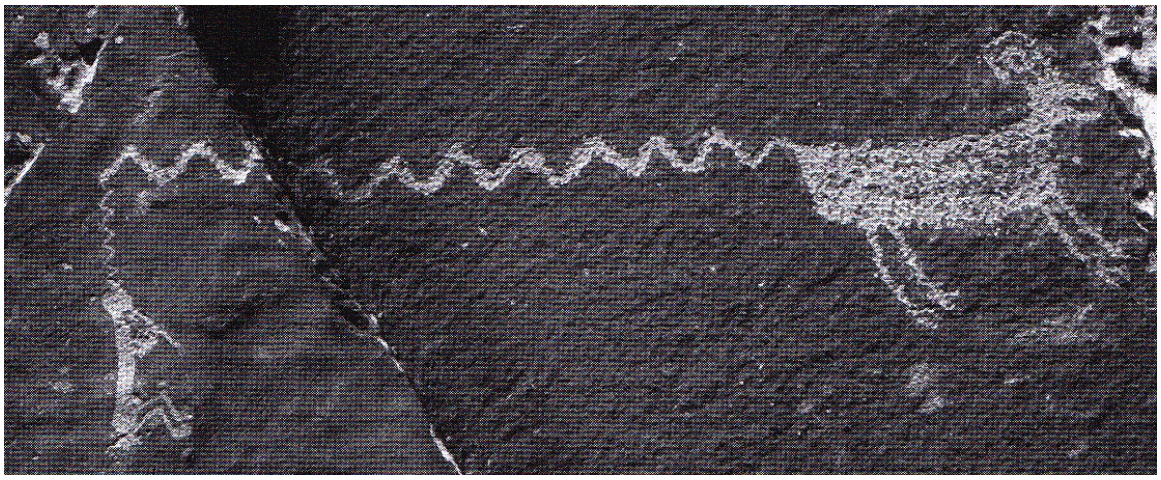

Figure 6-19. Petroglyph of flute-player connected by power lines to bighorn sheep, Johns Canyon, Utah.

In one example of Basketmaker petroglyphs from Johns Canyon, Utah, the flute-player is depicted with plants and bighorn sheep, and his music appears to ensure the fecundity of both animal and plant life (fig. 6-18).[267] A second petroglyph depicts the flute-player connected by two wavy or zigzag lines to a bighorn sheep (fig. 6-19).[268] The lines have been interpreted as "power lines," representations of the flute music's power over the sheep.[269] Such images may have been associated with hunting magic. The same power lines are visible in the engraving of the bison-man from Les Trois Frères. The first set of power lines (fig. 6-20)[270] extends from the center of the bison-man diagonally down to the left, to the horns of the bison below. The bison lowers

[267] Slifer, *Kokopelli*, 11. Basketmaker culture was the prehistoric culture of the American Southwest, extending from approximately 1500 B.C. to 500 A.D. The culture was coined "Basketmaker" due to the large number of baskets discovered at archeological sites pertaining to this period.
[268] Slifer, *Kokopelli*, 94.
[269] Ibid., 95.
[270] Breuil, *Four Hundred Centuries*, 172.

his head in submission to the bison-man's power. The second set of power lines (fig. 6-21)[271] extends in wider arcs from the bison-man toward his left. The zigzag lines appear to be indications of the bison-man's magical power, which is obviously conveyed as the charming effect of his music.

[271] Ibid., 172.

Figure 6-20. Bison-man of Les Trois Frères with power lines indicated.

Figure 6-21. Bison-man of Les Trois Frères with power lines indicated.

Other petroglyphs from the North American Southwest depict the flute-player in the company of hunters, again suggesting that the flute was connected with hunting magic. In depictions of the flute-player with hunters,

the connection between hunting and procreation is sometimes accentuated by depicting the hunters, as well as the flute-player, with erect phalluses (fig. 6-22).[272] The flute may have been associated with hunting magic – in that it magically ensured the adequate supply of game for future hunts – in the Upper Paleolithic period as well.

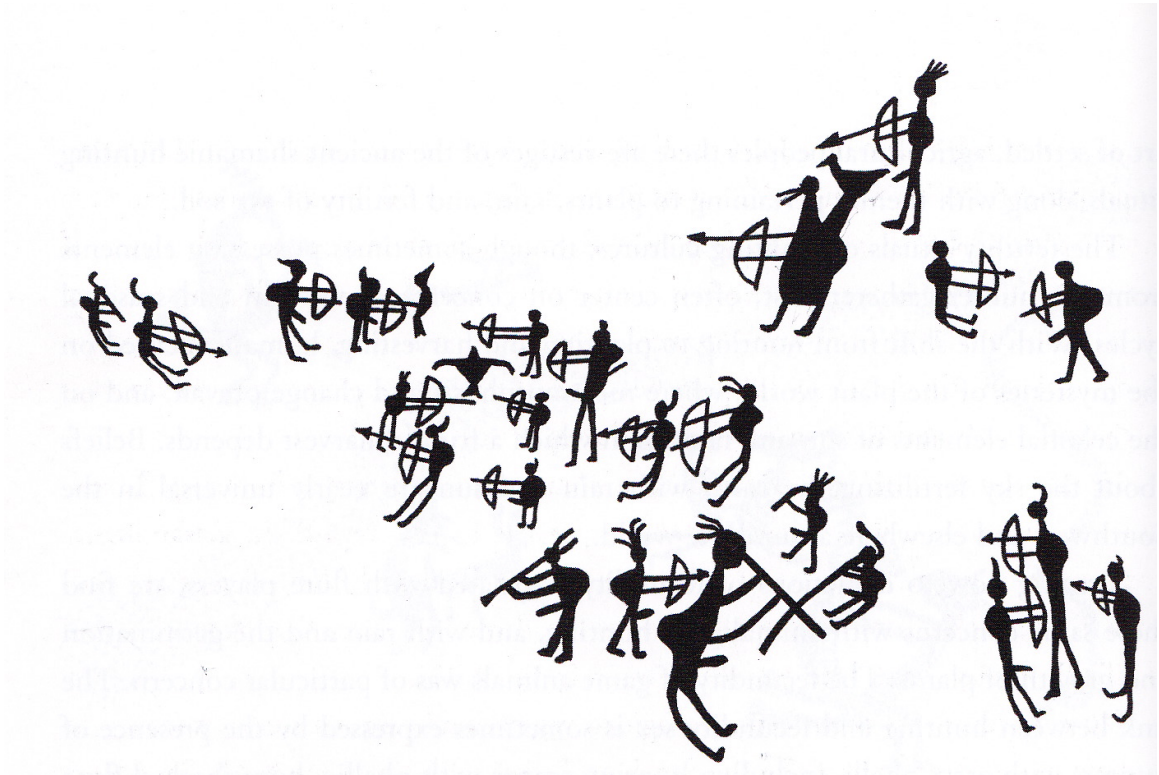

Figure 6-22. Petroglyph scene of flute players and hunters, La Cieneguilla, New Mexico.

There is second therianthropic bison-man depicted at Les Trois Frères, to the left of the better-known bison-headed figure. He appears in a panel of numerous bison and horses. The upper portion of the figure is bison, but the

[272] Slifer, *Kokopelli*, 94.

legs and prominent phallus are human. He is depicted turning his head to the left to look behind him.[273] Both of these may be depictions of mythological figures, shamans, or hunters disguised in a bison pelt in order to infiltrate a herd of animals during the hunt. In both, animal-human synthesis - and perhaps metamorphosis from human to animal form - and virility are connected. Perhaps transformation into animal was thought to enhance one's virility.

Yet another therianthropic image is found at the site of Le Gabillou in the Dordogne. This figure is another man with a bison head and a long tail engraved on a wall of the cave (fig. 6-23). This image is positioned in the group of engravings deepest in the cave.[274] The therianthrope's bent knees suggest that he is dancing, implying concurrent musical activity. Perhaps, as with similar representations, this figure is a shaman engaged in ritual activity involving music and dance. The numerous lines to the left of the figure's legs may represent a bison pelt he is wearing rather that a tail. Female symbols are juxtaposed with this masculine figure, creating in this panel the male-female duality that is a recurring theme in Upper Paleolithic art. Two large rectangles are painted next to him (not showon in fig. 6-23). These have been interpreted as female symbols.[275] The lines engraved over the figure's legs, as well as the lines to the left of his back and to the right and above the bison head suggest

[273] Curtis, *The Cave Painters*, 182.
[274] Leroi-Gourhan, *Treasures of Prehistoric Art*, 129.
[275] Ibid., 132.

that the figure was thus ritually marked. Perhaps, hunting magic was involved in marking the figure with these lines. However, the depiction of the male therianthrope along with female symbols suggests the additional possibility that rituals associated with masculinity and/or femininity were enacted within the cave. Furthermore, the dancing figure points to music accompanying such ritual activity.

Figure 6-23. Bison-man of Le Gabillou, Dordogne.

The antlers and horns worn by these figures emphasize their masculinity. Most of these therianthropes are depicted with prominent

phalluses, further connecting the images with masculinity and virility. These images are thus connected with the themes of life, fertility, and procreation, just as representations of women are linked to these themes. The possibility that the bison-man of Les Trois Frères is playing a flute raises the additional possibility that the flute was intrinsically connected with the life force, fertility, and procreation.

What is the relationship between flutes and the ubiquitous representations of animals in Upper Paleolithic art? Were flutes used to imitate the sounds of one or more animal species? If so, were these aural imitations limited to practical applications in hunting? Or were aural imitations of animals means of sonically representing, or recreating, the animals, perhaps in ritual contexts?

The sounds of the flutes would have most closely resembled the calls of birds, yet there are relatively few visual representations of birds in Upper Paleolithic art. It would seem that if flutes were used to bring painted images of birds to life, there would be numerous representations of birds, especially in consideration of the uniqueness of the flute as a musical instrument in the earliest eras of the Upper Paleolithic. The material from which most flutes were constructed as well as the potential of flute sound to mimic bird song suggest an association of the instruments with birds. This association is both symbolic (in that most of the flutes are made of bird bone) and aural (in that the high pitches and timbre of the sound approximate bird song more closely

than, say, the roars of lions, the lowing of bison, or mammoth calls). This presents us with a dilemma: if sound was used to bring visual depictions of animals to life, why is there a notable scarcity of images of birds in Upper Paleolithic art? Perhaps, flutes were means by which humans were transformed into birds, rather than means by which visual representations of birds were brought to life.[276] The relatively small number of representations of birds in art of the period may be explained by birds' association with the human soul. It may be that animals more frequently represented were symbolically associated with themes connected with the physical world, while birds were associated with the soul, which belongs to the unseen spiritual realm.

This hypothesis is supported by a panel painted within the cave of Lascaux (fig. 6-24). In this panel, a therianthropic figure, a man with a bird's head, is depicted to the left of a disemboweled bison. The man is shown either falling backward or lying on the ground. Below him there is a staff topped by a bird, possibly a duck. Horst Kirchner has interpreted this panel as a representation of a shamanic trance, in which the shaman is transformed into a bird to enable shamanic flight.[277]

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[276] This hyphothesis is strongly supported by abundant ethnographic examples of shamans' transformation into bird form in order to undertake the shamanic journey. Sound is one of various means of inducing the shamanic trance.

[277] Mircea Eliade, *Shamanism: Archaic Techniques of Ecstasy*, trans. Willard R. Trask (Princeton and Oxford: Princeton University Press, 2004), 481.

Figure 6-24. Shaft Scene, panel of bird-headed man, bird on top of pole, and bison, Lascaux, Dordogne.

Ethnographic sources provide corroborating evidence that birds, and hence bird-bone flutes, were associated with shamanic rituals. The Hungarian táltos is a shaman-like figure that appears in historical and mythological sources. The táltos is similar to a shaman in many respects. The táltos functions to heal other members of his or her society, both physically and spiritually. Whereas a shaman acquires his or her powers, the táltos is endowed with full powers at birth. Additionally, music and dance are not required to induce shamanic trance. Whereas shamans are not associated with the horse, in order to undertake shamanic flight, the táltos rides a horse that can fly, although it is wingless. The táltos placed a stick or pole topped by a

bird before his hut. He was able to send the bird wherever he wished to travel.[278] No movement, song, or music was required. Simply by meditating, the táltos sent the bird to the desired location. The bird perched on a stick is a symbol that is commonly found on the tombs of Yakut shamans, further evidence that the panel at Lascaux depicts a shaman and that the flute was likely associated with shamanic ceremonies.[279]

Further evidence that the panel with the bird-headed man represents shamanic transformation is found in ethnographic comparison with sotdae (fig. 6-25), bird-topped staves or poles associated with Korean shamanism. Sotdae are typically erected at the entrance to a village in order to ward off evil spirits and to ensure the villagers' prosperity and health. The sotdae originated as implements of shamans of North Asia. The pole is typically made of wood and is symbolic of the world-axis, which connects the three parts of the universe: the lower, middle, and upper levels. The bird atop a sotdae is most commonly a duck, as this bird is able to traverse all three divisions of the universe: diving under the water, walking on the earth, and flying in the air. The Omaha tribe of North America utilizes a similar bird-topped pole.

[278] Ibid., 481.
[279] Ibid., 481.

Figure 6-25. Korean sotdae.

The association of bird-topped poles with shamanic practices in various parts of the world suggest that the human-bird transformation depicted at Lascaux was a process of shamanic transformation. Ethnographic comparison provides evidence that birds and bird-topped staves such as that painted at Lascaux are associated with the process of shamanic transformation. This further suggests a connection between Upper Paleolithic flutes fabricated from bird-bone and shamanic practices.

Is the bird in this panel symbolic of the man's soul? This is a possibility suggested by the transformation of his head from that of a man to a bird's head at the moment of his death. The bird perched on top of the pole

near the dead or dying man may be symbolic of his soul's ascent into the spiritual realm. Death is the predominant theme in this panel. Disemboweled, the bison is dying, and the man is dying or already dead. The man and the animal are in opposition; each has inflicted death upon the other. It is significant that both are male. The masculine is exaggerated in the man's prominent phallus and in the bison's horns, which point aggressively toward the man. There are striking similarities between this panel and the panel of the bison-headed man from the site of Les Trois Frères. In this panel a bison to the left of the bison-headed man also points his horns aggressively toward the man. Again, man and bison are in opposition. If the man is hunting with a bow and arrow rather than playing a musical bow or flute, then it appears that death awaits the bison, and perhaps the man, whereas their deaths are certain in the panel from Lascaux. As the panel of the bird-headed man and bison from Lascaux indicates a connection between death and birds, a connection between bird-bone flutes and death is also implied. The association of Upper Paleolithic flutes with death is further suggested by their fabrication from the bones of birds that had themselves succumbed to death. The flute thus appears to have been intrinsically linked not only to life, but to all important moments within the cycle of life and death. It appears to have been associated with fertility, the moment of procreation, growth (e.g., the changing seasons in the panel of the bison headed man at Les Trois Frères), and finally, death.

In Upper Paleolithic art, depictions of humans are rare in comparison to the numerous depictions of animals. Depictions of women are found at the archeological sites of Terme-Pialet, Laussel, Angles-sur-l'Anglin, La Magdelaine, La Roche de Lalinde, and Les Combarelles. While the entire female body is represented at these sites, the vulva alone is depicted at sites such as Pech Merle, Gargas, Ebbou, and Bédeilhac.[280] Female figures are often situated in the central chambers of caves and in the central area of compositions. Female representations may appear alone. They are also frequently accompanied by large herbivores, including the bison, oxen, and mammoths.[281] While large herbivores often accompany female images, other types of animals frequently appear with male representations. This suggests a division of animals in Upper Paleolithic art based upon gender.[282]

Most male images are therianthropic rather than purely human images. The full body may be shown in profile, such as at the sites of Laussel, Les Combarelles, La Peña de Los Hornos, Los Casares, Pech Merle, Lillars, Saint-Cirg, and Cougnac. There are ithyphallic figures, for example at Lascaux and Le Portel. There are male faces in frontal or profile view, such as at Font-de-Gaume, Rouffignac, Les Combarelles, Le Portel, Marsoulas, Labastide, Altamira, and Angles -sur-l'Anglin. There are also depictions of isolated

[280] Leroi-Gourhan, *Treasures of Prehistoric Art*, 113.
[281] Ibid., 113.
[282] Ibid., 113.

phalluses, for example at Ebbou, Les Combarelles, and Pech Merle.[283] In nearly all cases, male representations are situated at the back of the caves or on the periphery of compositions, whereas female figures are typically situated at the center of the cave and at the center of compositions. Therianthropic male figures are also located in the remote reaches of caves. Examples include the Sorcerer of Les Trois Frères, the bison-headed man at Le Babillou, the therianthrope at Font-de-Gaume, and the one at La Pasiega in Spain.[284] While most male representations are positioned in the vicinity of animals, they are occasionally by themselves in a recess of the cave. Male figures are most often accompanied by horses, ibexes, and stags.[285] Images of birds in Upper Paleolithic art frequently appear alone. However, there are two examples of bird imagery associated with men – the panel of the bird-headed man at Lascaux (see fig. 6-24) and the engraving of a man wearing a bird mask from the site of Isturitz (see fig. 3-2). The connection of birds with men in these images implies that bird-bone flutes were associated with men.

A division between the masculine and the feminine is apparent in the reversal of the topographical positions of male and female figures and in the differences in the animals that typically accompany them.[286] The panels in the central part of the cave are dominated by animals associated with female

[283] Ibid., 113.
[284] Ibid., 113.
[285] Ibid., 113.
[286] Ibid., 113.

representations and female signs (fig. 6-26).[287] The periphery of the cave is painted and engraved with animals associated with male figures and male signs (fig. 6-27).[288] Many caves have a chamber, usually a narrow part of the cave, which may be considered a sanctuary. The entrance to the sanctuary, often a narrow tunnel, is typically decorated with male signs and animals. The entrance to the sanctuary may also be decorated with images of horned men and animals rarely depicted in Upper Paleolithic art, such as the cave lion and rhinoceros.[289]

Annette Laming-Emperaire and André Leroi-Gourhan interpreted the male and female symbols as the constituents of a symbolic system in which the masculine and feminine are diametrically opposed to each other. The female signs include triangular, oval, quadrilateral, and claviform signs as well as lattice-like patterns and brace-like signs. These are found almost exclusively in the central areas of the caves.[290] All of these signs are abstractions of the female genitalia. Male symbols include barbed signs, short strokes (*bâtonnets*), and dots.[291] The barbed signs are symbolic representations of the phallus. According to Leroi-Gourhan, the short strokes and dots are such simple symbols that it is difficult to trace their origins. However, it has been deduced that these are masculine symbols from their

[287] Ibid., 513.
[288] Ibid., 514.
[289] Ibid., 144.
[290] Ibid., 144-46, 513.
[291] Ibid., 146.

placement in association with other signs that are male or female.[292] Whereas female signs appear in the central areas of caves, male signs are located principally in lateral areas. Male symbols include hooked or 'spear-thrower' signs, barbed signs, single and double strokes (e.g., single and double parallel line segments), single and double dots, and rows of dots.[293] While it is possible that such signs are female and male symbols, other possibilities cannot be ruled out. It is possible that the signs do encode information, but of a different nature. There is evidence, for instance, that parallel line segments and the ladder-like sign are indications of transformation rather than male symbols (see fig. 6-9). The symbols in row C of figure 6-26 may represent leaves, and those in row B of figure 6-27 may be depictions of feathers. The dots in row D of the same figure may be tallies rather than male symbols.

[292] Ibid., 146-47.
[293] Ibid., 514.

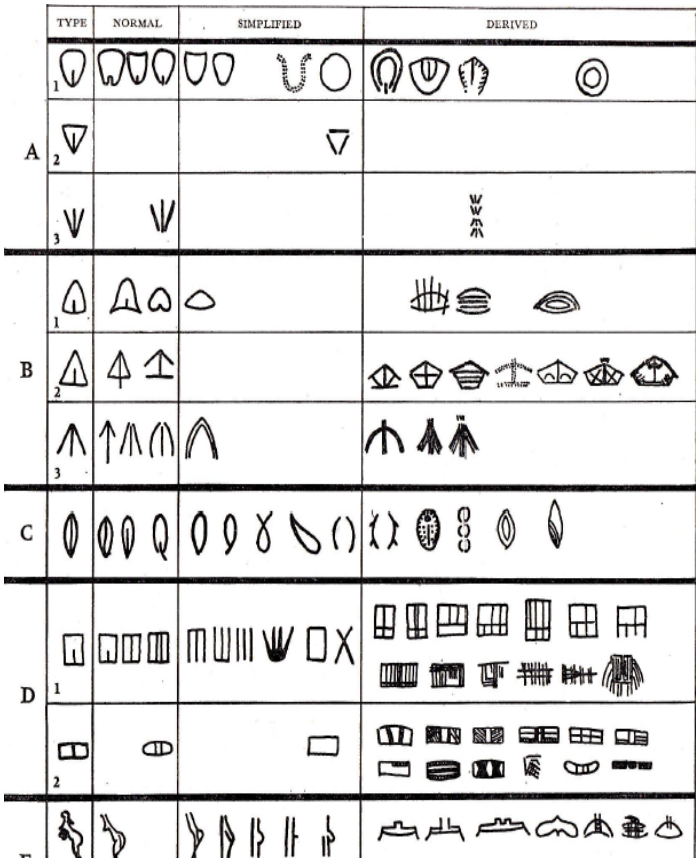

Figure 6-26. Female symbols in Upper Paleolithic art. (Source: Leroi-Gourhan, *Treasures of Prehistoric Art*.)

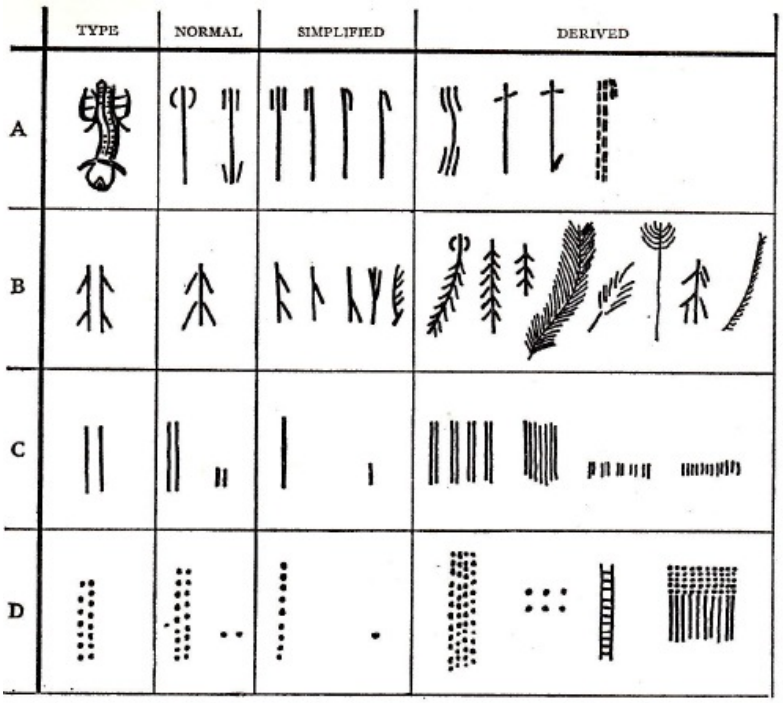

Figure 6-27. Male symbols in Upper Paleolithic art. (Source: Leroi-Gourhan, *Treasures of Upper Paleolithic Art*.)

Representations of humans in Upper Paleolithic art appear linked to the themes of fertility and sexuality. Females are often depicted with exaggerated breasts, hips, thighs, and abdomens, with minimal attention to their feet, arms, and heads. In other words, the female anatomy that is associated with sexuality, pregnancy, and birth is emphasized. The parts of the body not associated with sexuality and fertility are not rendered in detail. The female's feet, arms, and head are generally not depicted in detail and are small in comparison with the breasts, hips, thighs, and abdomen. In some representations, the feet, arms, and head are missing altogether. Males are

commonly depicted with the phallus indicated, and often are shown in the ithyphallic state.

There is a dimensional difference in the depictions of males and females in Upper Paleolithic art. Females are most often depicted in *bas-relief* on the walls of caves and rock shelters and in three-dimensional portable sculpture. Male images, on the other hand, are typically painted or engraved on the walls of the caves. The three-dimensional aspect of female representation appears to be linked to female fertility. The Venus of Laussel, for instance, is sculpted in *bas-relief* on a wall of the rock shelter. The Venus's abdomen, or womb, coincides with a convex protrusion of the rock wall of the shelter. Thus, the woman's swollen abdomen is three-dimensionally depicted. The wall of the shelter has been interpreted as a symbolical representation of the womb. The cave wall, as the womb, symbolizes the female creative potential. The sculpting of female images such as the Venus of Laussel in three dimensions on the cave wall, with the protruding wall sculpted into her swollen abdomen, bestows the creative capacity of the womb to the female image. In general, portrayals of human males in Upper Paleolithic art lack this three-dimensional element. Male figures are typically painted or engraved, rather than sculpted. This suggests that the cave itself may have been more closely associated with female fertility and pregnancy than with male fertility.

In addition to sculptures, engravings, and paintings of human figures, there are explicit representations of male and female genitalia in Upper Paleolithic art. These appear most frequently in parietal art. Most of the representations of vulvas are from the earliest periods of the Upper Paleolithic era. Representations of vulvas from the Aurignacian period were discovered at the archeological site of La Ferrassie and at three sites in the Dordogne – Abri Cellier, Castanet, and Blanchard. A plaquette found at the site of Isturitz is also engraved with a fragmentary representation of a vulva. After the Aurignacian period, representations of female genitalia are rare, and it appears that explicit representations were replaced with the female symbols (fig. 6-26), which came to represent the vulva.[294]

Phallic representations include more than fifteen pierced staves with handles in the shape of phalluses. These staves date from the Gravettian through the Magdalenian periods. A sandstone phallus, decorated with a barbed sign, was found at the archeological site of Farincourt. A bone phallus and a phallus-shaped pendant were discovered at Isturitz. Half-rounded rods from the site of La Madeleine in the Dordogne are most probably phallic symbols as well. Phallic representations are rare in wall art. However, one phallus is engraved at the site of Pech Merle, and another is engraved at Les Combarelles.[295] A semi-cylindrical mass sculpted out of clay

[294] Ibid., 123.
[295] Ibid., 133.

and found near two vulvas modeled in clay may be another phallic representation.[296] A stone phallus (fig. 6-28)[297] was recently excavated at the site of Höhle Fels in the Swabian Jura. The phallus is 19.2 cm tall and 2.8 cm in width. It is carved from siltstone, and its surface is highly polished. It is approximately 28,000 years old. Although the Venus of Höhle Fels is considerably older, dating to the Aurignacian period, the discovery of both of these artifacts at the site reflect cultural concern and activity associated with gender, sexuality, and fertility. There are rings etched around the upper portion of the Höhle Fels phallus, suggesting the symbolic nature of the artifact. The discovery of the phallus as well as the Venus at the site suggests that the flutes deposited within the cave were utilized in the context of rituals that were linked to gender roles, sexuality, or procreation.

[296] Ibid., 133-34.
[297] Photo by J. Liptak, copyright Universität Tübingen.

Figure 6-28. Phallus, Höhle Fels, Swabian Jura.

Symbolic engravings appear not only in Upper Paleolithic parietal and mobiliary art, but also often on flutes from the period. While it is generally agreed that the markings on the flutes are symbolically significant, their precise meaning has not yet been determined. The surfaces of some flutes are almost entirely covered with engravings, while others are not engraved at all. It is not known why some flutes are engraved and others not. It may be that

certain flutes were utilized in ritual contexts in which they were marked during the course of the ritual.

The most common engravings on the surfaces of the flutes are series of parallel line segments (see figs. 4-18 and 4-20). According to Leroi-Gourhan and Laming-Emperaire, single and double strokes (e.g., line segments) and series of line segments are among the male signs. One of the Magdalenian flutes from Isturitz is also with x-like symbols and cross-hatching (see figs. 4-13 – 4-17). The cross-hatching, as a lattice-like pattern, is associated with the feminine.[298] If the parallel line segments engraved on this artifact are male symbols and the cross-hatching is a female symbol, the masculine and feminine symbolically converge in these engravings. The appearance of masculine and feminine symbols on flutes implies the association of flutes with gender identity, fertility, and sexuality. As parallel line segments are the most common engravings on the flutes, these suggest that the flute was more closely linked to the masculine than to the feminine. There is corroborating ethnographic evidence from widely distributed cultures (see Chapter 7). Flutes are tied very closely to the masculine in these cultures. In some, flutes are the exclusive possessions of men. Women and children are prohibited from seeing the flutes in some cases, and from both seeing and hearing the flutes in others. These prohibitions are enforced in the most extreme case with rituals that include rape and murder in the event that a woman sees a

[298] Ibid., 513.

flute.[299] The cultures in which flutes are restricted to men range from New Guinea to the Amazon. Among the Xinguano of central Brazil, if a woman sees men playing their flutes, she is raped by the men. Rape of this sort is exercised as a punishment when women see men playing flutes, or even the flutes themselves, in a number of cultures. In some of these, the punishment may extend to the woman's murder. Similar cultural practices involving flutes in cultures separated by such vast distances suggest that these traditions have a common, ancient origin. These, in turn, together with the predominantly male symbols that are engraved on Upper Paleolithic flutes, suggest that the flute may have been similarly linked to the masculine in Upper Paleolithic culture.

The concern with gender identity seems to have been a distinguishing characteristic of Upper Paleolithic culture. This is evident not only in the use of male and female symbols and depictions of phalluses and ithyphallic therianthropes, but also in representations of women that emphasize parts of their anatomy associated with fertility. Representations of women in Upper Paleolithic art are frequently referred to as Venuses. Prehistorians of the early twentieth century used this term as it was believed these represented the Upper Paleolithic ideal of female beauty. Although most are portable sculptures, there are Venuses engraved on the walls of caves and rock shelters.

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[299] Hastings Donan and Fiona Magowan, *The Anthropology of Sex* (Basingstoke: Berg, 2010), 149-50.

The portable Venus figurines form a heterogeneous assemblage of artifacts, ranging in height from two to over forty centimeters. Many depict corpulent women with large buttocks and breasts. Some, however, appear to depict much younger females, without breasts or with very small breasts. Depictions of females at different stages of the life cycle attest to their makers' attention to the processes of change, development, and metamorphosis. Venus figurines are carved from a variety of materials, including clay, stone, bone, and ivory.[300] They were created throughout the Upper Paleolithic period, from the Aurignacian through the Magdalenian periods. The oldest known figurine, the Venus of Höhle Fels, was found in a basal Aurignacian level and dates to the outset of the Upper Paleolithic era. Although most of the women are depicted nude, some are shown with clothing. Most of the Venuses are small enough to have been easily carried by the nomadic hunter-gatherers who carved them.[301] Most Upper Paleolithic Venus figurines have been found in Europe, but they have also been found across south-central Asia and as far east as Siberia.

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[300] Karen Diane Jennett, "Female Figurines of the Upper Paleolithic" (Honors thesis, Texas State University, 2008).
[301] Carol P. Christ, *Rebirth of the Goddess: Finding Meaning in Feminist Spirituality* (London: Routledge, 1998), 51.

Figure 6-29. Venus of Willendorf, 22,000-24,000 B.C., Naturhistorisches Museum, Vienna.

The arms and feet of Venus figurines are generally neglected or absent, and the head is typically devoid of detail. Some of the figurines may depict women who are pregnant. The exaggerated breasts of many Venus figures emphasize the ability to nurture infants through breast-feeding. Although the precise cultural significance and function of the statuettes is unknown, they were almost certainly linked with fertility, and perhaps with sexuality, as evident in the exaggeration of the female anatomy associated

with sexuality and procreation. The figurines may have been icons, promoting fertility, or they may have been figurative representations of a goddess figure. In any case, the Venuses are in some way associated with the power to give and sustain life. A well-known figurine, known as the Venus of Willendorf (fig. 6-29), shows traces of having been covered in red ochre. Red ochre, as the color of the blood of menstruation and childbirth, appears to have been symbolically meaningful, signifying the life-giving power of the feminine.

Another well-known Venus, not a figurine but a sculpture in *bas-relief* on the wall of the rock shelter of Laussel in the Dordogne, was covered in red ochre as well, providing further evidence that red was symbolically linked to the feminine and the power to bestow life. The Venus of Laussel (fig. 6-30) was carved on the wall of the rock shelter approximately 25,000 years ago, during the Gravettian period. The Venus of Laussel, also called *la Dame à la corne,* is 44 centimeters in height and is the principal of four *bas-reliefs* of female figures discovered at the site. The Venus is the sole image engraved upon a wall of the shelter.[302] The other female images discovered at Laussel were engraved on portable slabs of stone.[303] The sculpture depicts a woman with full breasts and heavy hips and thighs. The woman's abdomen is similarly heavy, and the pubic triangle is clearly engraved. The convex shape

[302] Breuil, *Four Hundred* Centuries, 279.
[303] Ibid., 279.

of the rock propels the lower part of the abdomen forward, thus emphasizing the womb, the life-giving aspect of the figure.[304] The parts of the female anatomy connected with reproduction are thus emphasized. The sculpture has a resultant oval composition, with the woman's womb at the center. These details of the composition offer further evidence that this image is connected with the themes of fertility and reproduction. Further, the Venus appears to be associated with the sustenance of life, as evidenced in her full breasts, potentially indicative of her ability to breast-feed, and thus sustain and nourish life.

[304] Ibid., 279.

Figure 6-30. Venus of Laussel, Abri de Laussel, Dordogne.

The Venus of Laussel holds her left hand upon her abdomen and points toward her vulva, which is clearly outlined. In her right hand, she holds a bison horn, which is the same shape as the crescent moon and marked with thirteen lines, perhaps representative of the thirteen months of the lunar

year.[305] Thus, these lines connect the horn with the menstrual cycle. It is possible that the bison horn is associated with the symbolic pairing of the female and the bison.[306] This recalls the painting in the cave of Chauvet in which the lower half of a female figure is depicted with an encroaching bison. Alternatively, the bison horn could be interpreted as a horn of plenty or a symbol of fertility.[307] The thirteen notches on the surface of the instrument present the possibility that the horn was a rhythmic instrument – a rasp.[308] It is also possible that the bison horn was played as a trumpet-like horn. If the bison horn is a musical instrument, the sound produced on it would have symbolic significance due to the instrument's connection both to the bison and to the symbolic meaning of the thirteen notches engraved on its surface.

[305] Christ, *Rebirth of the Goddess*, 12.
[306] Rault, *Instruments de Musique*, 40.
[307] Ibid., 40.
[308] Ibid., 40.

Figure 6-31. Rhombus of Lalinde, Dordogne.

Red ochre was smeared not only on Venuses, but also on other Upper Paleolithic artifacts, including musical instruments. A notable example is the rhombus of Lalinde (fig. 6-31). In cultures throughout the world, flutes are often covered in red pigment, at times even with blood itself.[309] The red pigment strengthens the flute's association with the life force. Some human bodies were covered in red ochre upon their burial during the Upper Paleolithic period, suggesting that the red ochre was associated with life. The color red is symbolically associated with life, fertility, and vitality in cultures around the world. Covering the bodies of the dead with red ochre would have been a symbolic means of assuring the continuity of life after death in the

[309] André Schaeffner, *Origine des Instruments de Musique: Introduction Ethnologique à l'Histoire de la Musique Instrumentale* (Paris: Mouton, 1968), 243.

physical world. Traces of red ochre have been found on numerous Upper Paleolithic artifacts. With these artifacts, the application of red ochre appears to have symbolic, rather than functional, significance. It is possible that Upper Paleolithic flutes were covered with red ochre, although no clear traces remain. The surface of a flute from the site of Isturitz has red and black coloration (fig. 6-32). Although this may be the result of the deposition of the artifact in sediments containing these colors, it is possible that the flute was decorated with red and black pigments.

Figure 6-32. Isturitz flute with possible traces of ochre and black pigment, Musée d'Archéologie Nationale, Saint-Germain-en-Laye, catalogue number Isturitz 75 253 A IF 3 ∝ 1914.

Upper Paleolithic cave paintings were made with red and yellow ochre, hematite, manganese oxide, and charcoal, allowing the artists a palette of five colors: red, yellow, brown, black, and white. Red and black pigments, however, were the most commonly used. These two colors appear to have possessed symbolic significance. Ethnographic evidence confirms the existence of symbolic color systems in numerous societies.[310] Red dominates the Paleolithic color palette, with the red pigments usually obtained from ochre.[311] "Red, in particular, has a symbolic significance that crosscuts cultural boundaries (often being associated with life, success, and victory in African, Australian, and native North American societies)."[312] Indeed, red, perhaps as it is the color of blood, may have been symbolic of life itself in Upper Paleolithic art. Numerous Upper Paleolithic artifacts were covered with red ochre. These include representations of women depicted with full breasts and heavy hips, thighs, and abdomen. These so-called Venus figures were almost certainly associated with fertility, as elements of the female anatomy connected with sexuality, fertility, and birth are exaggerated in many instances. The covering of these same figures with red ochre provides evidence that the color red was symbolically meaningful. It appears that red was the color of life. Red is the color of menstrual blood, which is an

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[310] Erella Hovers, Shimon Ilani, Ofer Bar-Yosef, and Bernard Vandermeersch, "An Early Case of Color Symbolism: Ochre Use by Modern Humans in Qafzeh Cave," *Current Anthropology* 44, no.4 (Aug-Oct 2003): 491.
[311] Ibid., 493.
[312] Ibid., 493.

indication of a woman's fertility, as well as the color of blood associated with the birthing process.

Simona Petru has suggested that red symbolized transformation during the Upper Paleolithic.[313] If ochre is burnt, it is transformed. It changes from lighter yellow or orange colors to red. Fire itself, as an agent of transformation, likely held symbolic significance as well. Petru proposes that red was so important in Upper Paleolithic art because it was symbolic of fire and transformation.[314] The coloration of Venus figurines with red ochre is connected to the transformation of women's bodies during pregnancy and the resultant creation of new life.[315] Ochre has been found in Upper Paleolithic burials. Perhaps, ochre was sprinkled on the bodies to transform them – to restore life or to warm the bodies.[316] The presence of ochre on Venus figurines and in graves supports the hypothesis that red was a color that had the power to imbue life.

Figure 6-33. Engraved ochre, Blombos Cave, South Africa, ca. 90,000 – 100,000 old.

[313] Petru, "Red, black or white?," 203.
[314] Ibid., 206.
[315] Ibid., 206.
[316] Ibid., 206.

A Paleolithic engraved stone found at the site of Zemono in Slovenia has important implications regarding the meaning of engravings on Upper Paleolithic flutes. The stone is engraved with a cross-hatched pattern. It is rich in iron so the engraved lines are red.[317] Cross-hatching similar to that engraved on this stone are found on a number of Upper Paleolithic flutes. The engraving of these lines on a red stone connect the lines with the color red, and thus with the theme of transformation. Furthermore, the parallel line segments that mark the arm of the lion-man of Höhlenstein-Stadel suggest that parallel line segments, in addition to cross-hatching, symbolize transformation. The oldest evidence of symbolic representation comes from Blombos Cave in South Africa. A piece of ochre marked with cross-hatching was excavated from levels dating to 90,000 to 100,000 years ago. This artifact suggests that the connection between such markings and ochre may be a very ancient one. The presence of cross-hatching on the ochre from Blombos Cave (fig. 6-33)[318] provides corroborating evidence that both cross-hatching and the color red symbolize transformation. The aboriginal people of Australia also use cross-hatching as a symbol of transformation (fig. 6-34).[319] Cross-hatched patterns are painted "inside or surrounding the bodies of animals and humans. These represent the subtle energy fields that underlie,

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[317] Ibid., 207.
[318] Photograph copyrighted by Chris Henshilwood.
[319] Robert Lawlor, *Voices of the First Day: Awakening in the Aboriginal Dreamtime* (Rochester, Vermont: Inner Traditions International, Ltd., 1991), 276.

surround, and interconnect all things in creation."[320] The appearance of parallel line segments and cross-hatching on flutes implies that the flutes were connected with transformative processes. It is probable that flutes were utilized during rites of passage or shamanic ceremonies in which transformation takes place. Perhaps, flutes were used in funerary rites. Flutes fabricated from bird bone may have been symbolic of both life and death – of life in that the wing bones of birds symbolize flight and continued life of the human soul in the spiritual realm after death in this world, and of death in that the bones are those of birds that have died.

[320] Ibid., 289.

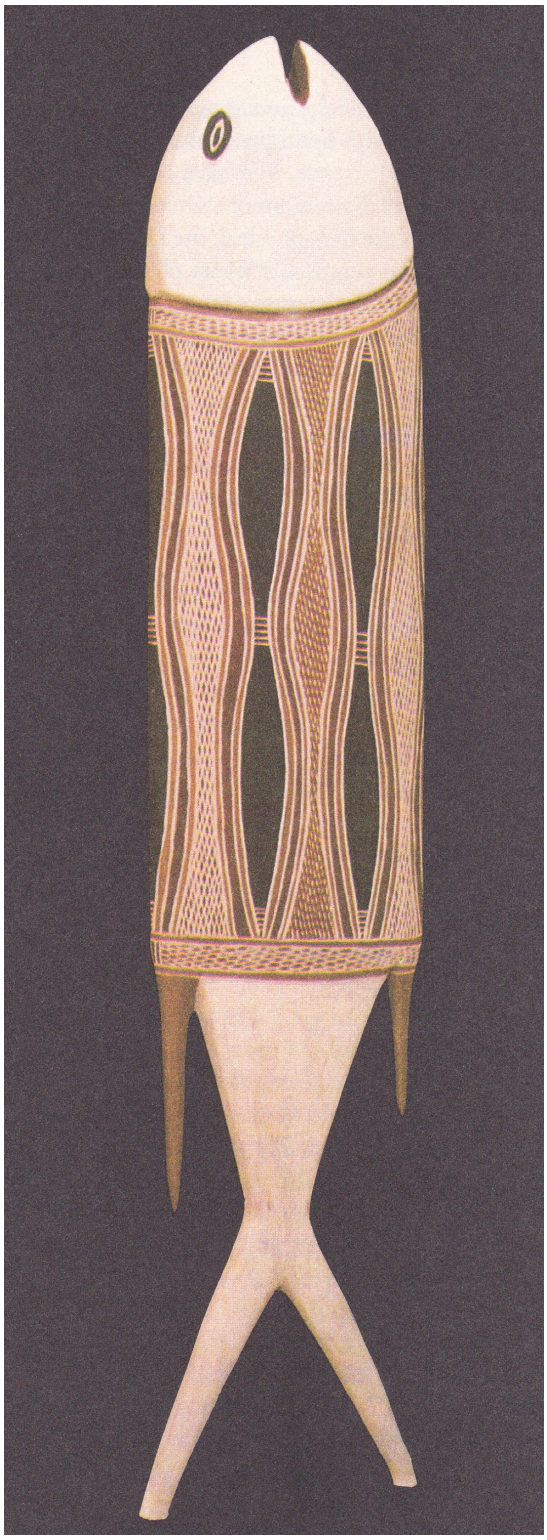

Figure 6-34. Sacred kingfish totem, Australia.

Black pigments may have been used to symbolize death. Alternatively, it may be possible that black was symbolic of the masculine, while red was symbolic of the feminine. It seems natural that red would have been associated with the feminine as a consequence of its association with menstrual blood and the blood of childbirth. The possibility that black was symbolic of the masculine is suggested in the painting of the Sorcerer at the site of Les Trois Frères (see fig. 6-12). The Sorcerer is a therianthropic figure, which may represent a shaman or a god-like figure presiding over the animals painted on the cave walls. The figure is male, with the phallus clearly painted. The phallus is painted with pigment darker than that used to paint the rest of the figure. Additionally, the Sorcerer is the sole figure painted in black within the Sanctuary, the innermost chamber of this cave.[321] A wide black band outlines the figure's body.[322] The masculinity of the figure is emphasized not only by the prominent phallus, but also by the antlers he wears. An artifact from Höhle Fels also implies a connection between black, or dark colors, and the masculine. This is an artifact known as the phallus of Höhle Fels. It is a representation of a phallus carved from siltstone and thus dark gray in color. The reason that black, rather than another color, is associated with male fertility is unclear. Although it is natural that red should be associated with the feminine due to the color of menstrual blood, there is no color that would

[321] Breuil, *Four Hundred Centuries*, 176.
[322] Ibid., 176.

naturally become indicative of the masculine in a similar manner. Any color associated with masculinity would therefore have to be determined arbitrarily.

There is some evidence that early human species, for example *Homo erectus* and *Homo neanderthalensis*, were making use of pigments by as early as 300,000 years before the present.[323] It seems extremely likely that these early humans practiced body painting.[324]

> Nonetheless, what may well be distinctively human is colour symbolism, particularly the trilogy red, white and black, which surfaces across the world. Berlin and Kay's (1991) famous study of colour symbolism showed that these three colours are the most frequently named in a sample of all human languages, and indeed the majority of African languages only have basic words for these colours. Bolton (1978) studied the worldwide salience of these three colours. Red, white and black are the key colours used for body-painting and often underlie complex symbolic systems.[325]

At numerous cave sites, human hand prints (fig. 6-35)[326] are superimposed upon paintings of animals on the cave walls or placed near paintings or engravings of animals. The hand prints can be positive or negative prints, but all of them are red. Positive hand prints were made when the hand was covered with pigment and then pressed onto the cave wall. Negative hand prints were made when pigment was blown or sprayed around

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[323] Roger Blench, "Using Ethnography to Reconstruct the Culture of Early Modern Humans" (paper presented at Département d'Anthropologie et d'Ecologie, University of Geneva, October 31, 2002): 15-16.
[324] Ibid., 15-16.
[325] Ibid., 16.
[326] Photograph copyrighted by James DiLoreto and Donald Hurlbert, Smithsonian Institution. The original photograph is housed at Koch Hall of Human Origins, National Museum of Natural History.

the hand as it was held against the cave wall. In either case, the placement of the human hand prints on or near the representations of animals suggests a human desire to merge with these animals.

Figure 6-35. Hand print, Chauvet, Ardèche.

The use of the human breath to blow paint was a technique employed in the creation not only of the negative hand prints but also in the creation of the paintings depicting animals on the walls of caves. The use of the human

breath is creating images of animals seems symbolically significant, as breath is symbolic of life itself, and blowing the pigment with the breath would seem to bestow life upon the newly created image as it appeared on the wall of the cave.

> In areas where the pigment appears diffuse and 'soft,' it may have been blown on, perhaps through a hollow bird bone; or the pigment may have been chewed in the mouth, then spit on the wall. The techniques of spitting or blowing a pigment onto the wall may have had special significance for the artist. Breath gives life, and French prehistorian Michel Lorblanchet conjectures that using the breath to decorate a wall bestowed life on the image. He speculates that, in a manner of speaking, the artist was transformed into the animal being painted.[327]

Humans, as wells as the entire pantheon of animals depicted in Upper Paleolithic parietal art, are dependent upon the breath to sustain life. The significance of the breath, however, extends beyond its symbolic meaning in the creation of art of the period. It is significant that the flute is played with the breath. As breath is symbolic of life, the act of creating sound with one's breath becomes a creative act in which breath becomes manifest as sound. There is a symbolic birthing process inherent in the act of playing the flute. The creation of musical sound with the breath is thus a symbolic bestowal of life, which mirrors the life bestowed upon the engraved and painted images in Upper Paleolithic art.

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[327] Blake Edgar and Donald Johanson, *From Lucy to Language* (New York: Simon and Schuster, 1996), 102.

Chapter 7: Comparative Ethnography

Comparative ethnography is essential for understanding the significance of flutes in Upper Paleolithic culture, permitting theoretical interpretation regarding the potential functions of these instruments. Ethnographic comparison has been cited in previous chapters in order to discern the meaning of engravings on Upper Paleolithic flutes and in decoding the significance of bird imagery in Upper Paleolithic art and its relevance to bird-bone flutes. The present chapter focuses on the flute as it is utilized in a variety of cultures. Examination of the functions of flutes in various societies yields insights regarding Upper Paleolithic flutes. Because most Upper Paleolithic flutes are fabricated from bird bones, ethnographic investigation of the significance of birds in cultures around the world provides additional information regarding the relevance of bird-bone flutes in Upper Paleolithic culture. Wide distribution of a particular cultural trait or practice is often an indication that it has ancient origins. The existence of similar cultural practices with regard to flutes among widely dispersed populations suggests that these practices have early origins. The cultural significations and functions of the flute are the same in numerous cultures, and it appears that these may have their origin in the meaning and function of the flute in the Upper Paleolithic era.

One of the primary symbolic associations of the flute derives from its phallic shape. According to Curt Sachs, the flute has had a variety of

associations that have changed over time. The flute has been used to effectuate fertility and rebirth magic as well as love magic (i.e., magic used to attract a lover). It has also been used to express love (i.e., in the sense of the serenade) and to express yearning for love. Eventually, the flute became an instrument of entertainment and then a mere child's toy.[328] Sachs points out that even as a child's toy the flute is played most typically by boys in a number of societies, affirming the tenacity of the instrument as a phallic symbol.[329]

Ethnographic sources, in addition to archeological evidence, indicate that the flute was indeed originally connected to the ideas of fertility and rebirth. In addition, there are a number of ethnographic examples of the flute's connection with funerary rites, and flutes are often excavated from ancient tombs. Flutes were often buried with the dead because they were considered life charms, with the power to bring about the deceased's rebirth. In Aztec society, slaves played bone flutes before being sacrificed and buried with their deceased princes. Boys who were to be sacrificed also played flutes as they ascended the step pyramids.[330] The power of the flute to guarantee rebirth is elucidated by another example from the Toda of southern India, who neither make nor play flutes. However, they obtain flutes to bury with their

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[328] Curt Sachs, *Geist und Werden der Musikinstrumente* (Hilversum: Frits A. M. Knuf, 1965), 22.
[329] Ibid., 22.
[330] Curt Sachs, *The History of Musical Instruments* (New York: W. W. Norton & Co., Inc., 1940), 45.

dead from a neighboring metal-working tribe, the Kota.[331] Among indigenous peoples of Taiwan, flutes were played on the journey home after a headhunt, serving to renew life. Among the ancient Egyptians and Peruvians, flutes were frequently placed in graves. The Wayana people of South America hung a deer-bone flute around the neck of the deceased.[332] The flute is used in such funerary rites because it has the power to bring about rebirth. Upper Paleolithic flutes appear to have been associated with fertility and rebirth as well. Flutes were most likely played in ritual contexts, most likely fertility rituals, funerary rituals, or rites of passage.[333]

The flute is associated with the fertility and rebirth not only of humans, but also of animals, plants, and trees. The flute is associated with the harvesting of crops and trees because it has the power to initiate the regrowth of plants after the harvest. The connection of the flute with harvesting is seen in the celebration of the Yapurutú, a tree harvest festival in northwestern Brazil. Flutes are played during the celebration, ensuring plentiful regrowth.[334] In various agricultural cultures of Africa and North America, the flute has the power to scatter clouds, induce rain, and bring about the fertility of the fields. In these contexts, the flute has power over those natural forces upon which plant life is dependent. Among the Hopi, certain men constitute a

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[331] Sachs, *Geist und Werden*, 22.
[332] Ibid., 22.
[333] Sachs, *History of Musical Instruments*, 44.
[334] Sachs, *Geist und Werden*, 20.

"flute clan," which participates in a flute festival of the seed-god Alosaka.[335] Thus, the flute is linked to the incipient life of the seeds.

Sachs points out that the functions of musical instruments within a specific culture are often complex and manifold. The shapes, colors, and materials from which the instruments are fabricated all have cultural/symbolic meaning. As a result of the symbolic significance of their shapes, colors, and materials, the meaning of the sounds produced on the instruments becomes part of a greater symbolic gestalt. Furthermore, musical instruments are intrinsically connected to the female and male principles, which are fundamental to all organic life.[336] The dualism between the masculine and feminine appears to be an essential component of the human psyche. We imbue the planets, seasons, colors, and numbers, as well as other significant elements of the environment, with masculine and feminine qualities. Sachs suggested that each instrument can be classified as either masculine or feminine. According to Sachs' classification scheme, the sun, daytime, the color red, blood, and odd numbers are masculine, while the moon, night, milk, and the color white are feminine.[337] As previously discussed, however, there is also evidence that the color red was a symbol of the feminine during the Upper Paleolithic era. Sachs classified the flute as a male instrument. The

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[335] Ibid., 22.
[336] Curt Sachs, *The Wellsprings of Music*, ed. Jaap Kunst (New York, McGraw-Hill Book Company, 1965), 94.
[337] Ibid., 94.

flute, however, may at times symbolize the feminine. In the myth of Pan and Syrinx, Syrinx is changed into reeds at the water's edge to escape being raped by Pan. Pan cuts the reeds to make the first panpipe. His blowing into the panpipe is thus a substitute for the sexual intercourse he had desired. Thus, the hollowness of the panpipe is symbolic of the female opening. At the same time, the shapes of the panpipe's tubes connect the instrument with the phallus. The instrument is simultaneously associated with female and male genitalia. The flute's symbolic association with both masculine and feminine is seen, too, in the assignment of both genders to the instruments. Among certain tribes of the highlands of New Guinea, for instance, flutes are played in pairs – one male and the other female.

The flute, as an instrument primarily associated with the masculine, is played exclusively by men in cultures throughout the world.[338] There are examples, however, of women playing flutes. Jacques Cook reported in 1773 that in Tahiti the women congregated at dusk and that one of the women played a nose flute while the others danced.[339] The flute does not always have the gentle timbre and sound that are commonly associated with the instrument. John Gabriel Stedman wrote in 1806, for instance, that in the French colony of Cayenne, now French Guiana, the Indians played huge flutes producing

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[338] André Schaeffner, *Origine des Instruments de Musique: Introduction Ethnologique à l'Histoire de la Musique Instrumentale* (Paris: Mouton, 1968), 244.
[339] Ibid., 244.

sounds that resembled the lowing of cattle.[340] Even in ancient Greece, the flute was associated with masculinity. Athletes practiced in the gymnasium to the music of flutes. The flute thus became associated with male physical power. During the Greek symposia, men were entertained by courtesans who played flutes. In the case of the symposia, we see an example of the flute's association not only with the masculine, but with sexuality.

The flute is also commonly associated with magic and magicians, often with love magic.[341] The flute's magical power derives in many cases from its fabrication from human or animal bones.[342] In many human cultures, the bones of a person or animal are used in a magical regeneration of the entire being. Bones thus become symbolic of regeneration, rebirth, and fertility. The magical aspect of the flute is often reinforced by distorting the timbre of the instrument. The Indians of Bolivia, for example, sometimes place their flutes within large earthen pots. They hold the sides of the pots as they play the instruments, and a frightening, eerie tone is produced as a result.[343] The sounds produced on flutes are sometimes transformed by placing a vibrating membrane across a hole of the instrument. The vibrating membrane changes the timbre of the flute, transforming it into a mirliton, that

[340] Ibid., 245.
[341] Ibid., 245.
[342] Ibid., 245.
[343] Ibid., 245.

is a membranophone in which the vibrating membrane is the source of the sound.[344]

The magic associated with the flute is not restricted to love magic. In Kenya, Gikuyu herdsmen are at times forbidden to play the flute while the flock is grazing in a field. It is thought that the flute melodies might attract evil spirits and lead to the destruction of the herds. [345] Among the Gikuyu, playing a flute or whistle is also not permitted inside a hut, as the music of these instruments has the potential to lure evil spirits into the home, where they may create mischief. [346] The Gikuyu prohibitions illustrate a common theme regarding the flute – its magical power. The restrictions also elucidate the flute's power to connect to the spirit world. The Carobs of Guyana made flutes from the bones of their enemies. They believed that playing these flutes made communication with their enemies' spirits possible. The instruments thus allowed them to access information from the spiritual realm.

The magical power of the flute across cultures suggests that the instrument may have been utilized within the context of shamanic rituals in which the magical power of the flute would have been employed to effectuate the transformation of the shaman and bring about the desired outcome of the ritual. The possibility that shamanism was practiced in Upper Paleolithic

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[344] Ibid., 245.
[345] Jomo Kenyatta, *Facing Mount Kenya* (New York: AMS Press, 1953), 95. See also Curt Sachs, *The Wellsprings of Music*, ed. Jaap Kunst, (New York, McGraw-Hill Book Company, 1965), 95.
[346] Ibid.

Europe is suggested by the art and artifacts of the period. Karl J. Narr has interpreted animal skulls and bones at Upper Paleolithic sites as ritual offerings. These suggest that rituals were enacted in which the animal bones were used to bring the animals back to life.[347] The ritual use of animal bones in the Upper Paleolithic may be the origin of bear ceremonialism as it is practiced in Asia and North America.[348] Kirchner believes that *bâtons de commandemant***,** artifacts with an otherwise unexplained function, are drumsticks.[349] The existence of these artifacts raises the possibility that drums were played in the context of shamanic rituals, as drumming is an important component of shamanic ritual in a number of traditions.[350] It may be that shamanic practices initially emerged in Upper Paleolithic Europe. It is also possible that these artifacts are the first evidence of a shamanic tradition that originated even earlier.[351]

According to Curt Sachs, bird-bone flutes are generally in the possession of shamans and medicine men.[352] It is significant that the vast majority of Upper Paleolithic flutes were fabricated from the wing bones of birds, suggesting a connection between shamanism, birds, and bird-bone flutes. The connection between birds and flutes appears in many parts of the

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[347] Mircea Eliade, *Shamanism: Archaic Techniques of Ecstasy*, transl. Willard R. Trask (Princeton and Oxford: Princeton University Press, 2004), 503-04.
[348] Ibid., 503-04.
[349] Ibid., 503.
[350] Ibid., 503.
[351] Ibid., 504.
[352] Sachs, *Geist und Werden*, 23.

world, suggesting that flutes are thus associated with shamanic practices. In Nepal, for instance, there is an eagle-bone flute called the *byaglin*, which means "flute-bird."[353] In shamanic ritual, the shaman merges with various animals and birds, transforming himself into these forms. The imitation of the sounds of those animals and birds is a common element of shamanic ritual. Bird-bone flutes found primarily in cave sites – hidden spaces that would have been appropriate for secret, shamanic ceremonies – may have been utilized in the Upper Paleolithic shaman's ritual. Flutes most likely functioned to imitate bird song in these rituals, thus assisting the shaman in the processes of transformation (from human to bird form) and the resultant shamanic flight.

Birds are associated with the celestial realm, a supreme being, and/or shamanism in a number of cultures. Birds are symbolically meaningful in many cultures as they have access to the celestial realm, often considered sacred. Many supreme beings of archaic peoples are called "Sky," "He on High," or "He of the Sky."[354] The ubiquity of supreme beings associated with the sky suggests that these gods may have a common ancient origin. In some shamanic traditions, a bird is the spirit protector of the shaman, guiding and protecting him on his journey. The Inuit consider birds to be spirits that help the shamans. Their art typically depicts a bird on the shaman's head, as the

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[353] Lucie Rault, *Instruments de Musique du Monde* (Paris: Éditions de La Martinière, 2000), 201.
[354] Eliade, *Shamanism*, 504-05.

Inuit believe that the human soul resides at the top of the head.[355] In Mayan art, too, birds are shown perched on top of human heads. Perhaps these birds are also representations of the soul. In Siberia, it is believed that every shaman's mother is a bird of prey. As birds are denizens of the sacred, celestial realm, Upper Paleolithic flutes fabricated from their wing bones were likely symbolically associated with this realm.

The Shaft Scene at Lascaux (see fig. 6-24) depicts a bird-man therianthrope, which may be a representation of a shaman assuming bird form during shamanic trance. The panel also includes a disemboweled bison, a bird perched on top of a pole, and a lance or sword lying to the right of the pole. The most common interpretation of the scene is that the therianthrope has been injured by the bison and is either falling to the ground or already lies on the ground, lethally injured. However, it may be that the bird-man is a representation of a shaman in a state of trance.[356] Ethnographic comparison helps support this earlier claim. Birds are associated with shamanism in numerous cultures, and often serve as shamans' spirit guides. In many cultures, shamans are transformed into bird form, which enables their shamanic flight. In this panel, the therianthrope's hands and feet, as well as his head, appear similar in shape to the bird feet. If the bird-man is a shaman shown in the process of transformation, the bird perched on the staff below

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[355] Lesley Morrison, *The Healing Wisdom of Birds: An Everyday Guide to their Spiritual Songs and Symbolism* (Woodbury, Minnesota: Llewellyn Publications, 2011), 34.
[356] Eliade, *Shamanism*, 503.

him may be his tutelary, or guiding spirit, that accompanies him on the shamanic journey he undertakes while in the trance state.[357]

The bird perched on top of a pole in the Shaft Scene at Lascaux very closely resembles a Korean sotdae (see fig. 6-25), a wooden pole with one or more carved birds on top. The bird-topped pole in the Shaft Scene may have functioned as the sotdae of northeastern Asia. It is possible that the use of such bird-topped poles and the associated shamanic tradition were common components of a persistent cultural tradition that spanned from the Magdalenian period to the present. The present-day shamanic traditions can inform us about the shamanistic practices during the Upper Paleolithic. The sotdae in the cave painting is a key that contributes to the understanding of the Upper Paleolithic shamanic tradition and beliefs through ethnographic comparison.

Sotdae were originally employed by shamans of northern Asia. This resemblance of this image with sotdae again suggests that shamanism was practiced during the Upper Paleolithic. Sotdae are found throughout northeastern Asia – in the Altai Republic, Japan, Mongolia, and Siberia.[358] "The pole is interpreted as a passage between the gods and people. According to northern Asian shamanism, there are three distinctive domains of the world:

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[357] Eliade, *Shamanism*, 503-04. See also Margaret Stutley, *Shamanism: An Introduction* (London: Routledge, 2003), 4.

[358] Jaehan Bae, "Korean Sotdae: Nature, Art, and Guardian of Community," accessed June 5, 2012, www.uwosh.edu/art/faculty/Korean%20Sotdaes-Jaehan%20Bae.pptx.

heaven/universe, earth, and underground/underwater. Gods descend to the earth through the pole of the Sotdae and the spirits of the dead can ascend to heaven through the pole."[359] The cosmic tree connects the lower, middle, and upper realms, as its roots grow into the earth and its branches extend into the upper realm. The sotdae is a symbolic representation of the cosmic tree, similarly connecting these three realms.

Birds on sotdae are typically ducks, gulls, ibises, wild geese, white herons, and crows. Most birds on sotdae are water birds.[360] In Korea, ducks are the most common birds on sotdae, and have particular symbolic significance as they are able to inhabit the three realms – the sky, earth, and underworld (i.e., underwater). Thus, both the pole and the bird of the sotdae connect the upper, middle, and lower realms of the world.

In parts of northeastern Asia, sotdae are associated with shamanic practices. In Siberia sotdae are utilized by shamans during ritual performances as only shamans are capable of connecting the lower, middle, and upper worlds. In Central Asian and Siberian shamanism, the shamanic journey, whether it is conceived as a celestial or subterranean one, is considered sufficiently difficult to require assistance from animal spirits. The animal spirits invoked may be those of wolves, bears, reindeer, hares or birds. Various types of birds may be called upon for assistance, including eagles,

[359] Ibid.
[360] Ibid.

owls, geese, and crows. The animal spirits assist the shaman in navigating the three cosmic zones. The shaman's tutelary spirit as well as those of his shaman-ancestors also assist him in undertaking the shamanic journey. The shaman summons these spirits by beating on his shamanic drum. The spirits either move into the shaman's body, enter his drum, or sit upon his shamanic costume. It is upon the arrival of these spirits that the shaman is transformed into a spiritual being and his soul is free to journey into unseen realms.[361] When the bird or animal spirit enters the shaman, he is transformed into spiritual form and is then capable of shamanic flight.[362] Animals, plants, and human-animal figures have been important symbols with a variety of functions across Asian cultures.[363] Animals, plants, and therianthropes play important roles not only in Asian cultures, but in many parts of the world, where they are frequently associated with shamanic traditions.

The connection between birds and shamanism is reflected in shamanic costumes throughout the world. Bird regalia, such as feather cloaks and mock bird wings and beaks, are commonly worn to conduct shamanic rituals.[364] Feathers are used ubiquitously in shamanic dress, and the structure of the shamanic costume often imitates the shape of a bird.[365] The eagle is the most

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[361] Manabu Waida, "Problems of Central Asian and Siberian Shamanism," *Numen* 30, Fasc. 2 (Dec. 1983): 232.
[362] Ibid., 232.
[363] Eva Jane Neumann Fridman and Mariko Namba, eds., *Shamanism: An Encyclopedia of World Beliefs, Practices, and Culture* (Santa Barbara: ABC-CLIO, Inc., 2004), 11.
[364] Morrison, *The Healing Wisdom of Birds*, 32.
[365] Eliade, *Shamanism*, 156.

commonly imitated bird in shamanic dress.[366] In many traditions, the shaman assumes bird form. In others, he is accompanied by a bird on his journey to other realms. In both cases, birds make possible his journey to the celestial, spiritual realm – otherwise, a journey only the souls of the deceased may take.[367] Sorcerers and medicine men as well as shamans assume the magical ability to fly, by transformation into bird form. In Malekula, for instance, sorcerers usually choose to transform themselves into falcons or hens in order to acquire the ability to fly.[368] North American, Siberian, and Eskimo shamans assume bird form in order acquire the faculty of flight.[369] Bird-like costumes are a means of facilitating the shaman's transformation into bird form.[370]

Siberian shamans' costumes are decorated with ornithomorphic symbols. The Altaic shamans, who include those of the Minusinsk Tatars, Soyot, Teleut, and Karagas, wear costumes that resemble owls. Among the Nani, previously known as the Goldi, the shamanic costume is also in the form of a bird. Siberian peoples, including the Dolgan, Yakut, and Tungus, also employ shamanic costume that imitates bird form. The Yukagir costume incorporates feathers. The boot of the Tungus shaman's costume resembles a bird's foot. The costume of Yakut shamans includes a representation of a

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[366] Ibid., 156.
[367] Ibid., 98.
[368] Ibid., 477-78.
[369] Ibid., , 477-78.
[370] Ibid., 179-80.

complete bird skeleton.[371] "Altaian and Khakas shamans attached genuine bird wings to the backs or shoulders of their caftans. Frequently they also sewed to the sleeves, at the spots that matched hand joints, iron or copper plates of a square or oblong form. These plates symbolized the joints of the bird wings."[372]

Shamanic costume in other parts of the world also imitates bird form. Marind sorcerers (South New Guinea) attach heron plumes to their arms in order to facilitate his magical flight.[373] North American shamans don ceremonial costumes that are symbolic. These typically include the feathers of an eagle or other bird. In addition, eagle feathers are fastened to sticks and used in initiation ceremonies (e.g., among the Maidu of northern California). Sticks decorated with feathers are also placed on shamans' graves. The stick points in the direction that the dead shaman's soul has flown.[374] In some traditions, the shamanic costume may lack overall ornithomorphic structure. Even in these cases, elements of the costume either symbolize birds or are decorated with bird feathers. The headgear of Manchu shamans (China), for instance, is made of feathers. The costumes of Mongol shamans have "wings" on the shoulders. Although the bird imagery of Kazakh-Kyrgyz (Kazakhstan

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[371] Ibid., 156.
[372] E. D. Prokof'eva, "Shamanic Costumes of the Siberian Native Peoples," in chap. 2, "Siberian Shamanism in Soviet Imagination," in *Shamanism in Siberia: Russian Records of Indigenous Spirituality,* ed. Andrei A. Znamenski (Dordrecht: Kluwer Academic Publishers, 2003), 230.
[373] Eliade, *Shamanism*, 478.
[374] Ibid., 179.

and Kyrgyzstan) shamans was most likely more explicit at an earlier time, only their staffs are now decorated with owl feathers.[375]

The Siberian shaman's coat shown below (fig. 7-1)[376] symbolizes a bird. The suede fringes represent bird feathers. The rectangular metal plates attached to the sleeves represent wing bones. On the back of the coat, there is a metal effigy of a grouse. On a suede strap at the small of the back metal pendants are attached; these include one of a loon.[377] This is only one example of the bird imagery commonly found on the shamanic costume. This particular costume also includes tubular metal pendants attached to the center of the back of the coat. These pendants were the voices of the spirits.[378] Upper Paleolithic flutes may have similarly held voices of the spirits. Perhaps the hollow wing bones of birds were attached to shamanic costumes. The function of these artifacts remains enigmatic, although such bird-bone tubes are prolific in Upper Paleolithic levels. Many of these are beautifully engraved, suggesting that they had a symbolic, ritual function. In Siberia, as in a number of other cultures, the importance of birds is explained at least partially by the belief that birds never die and are the ancestors' spirits. One of the most important keys to understanding the significance of Upper Paleolithic flutes may be their fabrication from the wing bones of birds. As birds are liminal, in that they dwell in the terestrial realm, the celestial realm, and sometimes even the aquatic realm, which symbolizes the underworld, they

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[375] Ibid., 157.
[376] Image by the Russian Museum of Ethnography, collection number 8762-20140, http://www.museum.state.il.us/exhibits/changing/journey/objects/102coat.html.
[377] Ibid.
[378] Ibid.

are powerful symbols of the human soul's ability to traverse these same realms. Bird-bone flutes – especially since they are crafted from wing bones – simultaneously symbolize the flight of the soul, rebirth, and transcendence. Additionally, we can see in the above description of the shaman's bird costume that the bird serves as a guide in the shamanic experience.

Figure 7-1. Yakut shaman's coat, Yakutia, eastern Siberia, early 20th century, made of suede of reindeer, iron, cloth, and hair from beards of reindeer.

In many ancient cultures, people consumed bird parts in order to absorb the bird's mana.[379] *Mana* is a Polynesian term that refers to the spiritual power concentrated in certain objects. It refers to a generalized, supernatural force that may be concentrated in a particular object or person. The consumption of bird flesh was seen as a means of absorbing the bird's mana, which permitted his transformation into bird form. Perhaps, during the Upper Paleolithic era, it was believed that the spiritual power of birds was similarly held in their bones. It seems that wing bones would have been accorded particular power, since wings enable flight. Flutes fabricated from these bones would have been imbued with similar spiritual power. This may have been expressed, manifested, and disseminated through the sound created on these instruments. As harbingers of spiritual power, flutes were likely the possessions of shamans or other such specialists in Upper Paleolithic culture. The instruments were most likely reserved for use in ritual contexts in which the expression of spiritual power was essential. Sound is one vehicle by which it may be expressed. Combined with transformative dress and images (e.g., cave paintings and mobiliary art), sound produced on bird-bone flutes would have been both a manifestation of the shaman's spiritual power and a catalyst in the transformative process.

The link between birds and the spiritual realm becomes evident in examining the significance of birds in rituals performed in different parts of

[379] Morrison, *Healing Wisdom of Birds*, 37.

the world. In Borneo, Dyak shamans escort the souls of the dead to the spirit world in the form of birds. In the performance of sacrificial Vedic rituals, upon reaching the top of a ladder, priests spread their arms in imitation of a bird spreading its wings and say, "We have come to heaven." [380] A similar sacrificial ritual is performed on the Melanesian island of Malekula. At the culminating point in the sacrifice, the man conducting the ritual spreads his arms in imitation of spreading falcon wings and sings a song of praise to the stars. In numerous cultures, it is believed that all people were able to fly to the heavens, often in bird form, in a mythical age.[381]

The human soul is perceived as a bird in numerous cultures (i.e., the saying "the soul has wings"). Birds also commonly function as psychopomps, spiritual beings that lead the souls of the dead to the spirit realm.[382] In the ancient Near East, the human soul was conceptualized in the guise of a bird. The deceased were thus identified as birds. The soul of the deceased is described as a falcon flying away in the Egyptian Book of the Dead. In Mesopotamia, too, the dead were thought to be birds. These ideas most likely share a common, ancient origin. Depictions of the Cosmic Tree at prehistoric monuments in both Europe and Asia include two birds in its branches. These represent men's souls in the mythological traditions of Siberia, Central Asia,

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[380] Eliade, *Shamanism*, 478.
[381] Ibid., 478.
[382] Ibid., 479. Pyschopomps are spirits, angels, deities, or creatures that escort the souls of the recently deceased to the afterlife. Their function is to ensure the safe passage of these souls.

and Indonesia.[383] The indigenous people of Australia believe that wild birds carry messages from unknown realms.[384] As these are widespread motifs, they most likely have ancient origins. Shamanism is closely tied to bird mythology because shamans are able to undertake magical flight while still living, whereas all others only take flight after death.[385] As magical flight symbolizes both the soul's autonomy and ecstasy,[386] the sound produced on bird-bone flutes was most likely connected not only with flight, but also with these motifs.

The possibility that bird-bone flutes were played in the context of shamanic rituals is further suggested by the secret languages shamans learn in numerous cultures. The secret languages that shamans learn most typically originate in animal languages. Bird songs are the source of some of the most common secret languages, as shamans assume bird form in numerous traditions. Shamans are often required to learn a secret language during the course of their initiations.[387] As bird-like shamanic costumes are used to facilitate a shaman's transformation into bird form, Upper Paleolithic flutes may have been utilized to enable shamanic transformation through a parallel auditory imitation of a bird. In various traditions, it is believed that shamans

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[383] Ibid., 480-81.
[384] Robert Lawlor, *Voices of the First Day: Awakening in the Aboriginal Dreamtime* (Rochester, Vermont: Inner Traditions International, Ltd., 1991), 152.
[385] Eliade, *Shamanism*, 479.
[386] Ibid., 479.
[387] In both South and North America, shamanic initiation involves learning to imitate the animal sounds that constitute the secret language.

are capable of understanding the meaning inherent in bird song. The shaman's power derives from his ability to understand bird, and sometimes other, animal languages.[388] The shamans must learn to speak the language of birds that they impersonate in shamanic ceremony.[389] It is possible that Upper Paleolithic flutes were utilized to mimic bird calls in the context of shamanic rituals. They may have been ritual instruments possessed and played exclusively by shamans who were capable of understanding bird language. This suggests the possibility that the more sophisticated engravings on Upper Paleolithic flutes may represent bird songs. These would thus constitute a form of notation in which bird songs were encoded symbolically.

Secret languages are used to communicate with the tutelary animal spirits.[390] The arrival of the tutelary spirits often takes place in that part of the shamanic rite when the animal calls are produced.[391] The sound produced on bird-bone flutes is a symbolic indicator that a bird spirit has arrived. The symbolic act of blowing into a flute signifies the bestowal of life, as breath is symbolic of life. On the other hand, the bones of the bird are symbolic of death. Playing upon the flutes thus unifies the complete life cycle. The recreation of bird calls on a flute enables a transformative process in which life is newly given to the bird via the act of playing the instrument.

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[388] Eliade, *Shamanism*, 97. Shamans of the Pomo and Menomini, among others, imitate bird songs. Yakut, Yukagir, Chukchee, Goldi, and Eskimi shamans imitate various animal sounds, including bird calls.
[389] Morrison, *Healing Wisdom of Birds*, 34-35.
[390] Eliade, *Shamanism*, 96.
[391] Ibid., 97.

According to Mercia Eliade, in cultures throughout the world the learning of animal languages, especially of birds, enables access to the secrets of nature. As the knowledge of animal languages grants one the ability to prophesy, these languages are typically employed by shamans.[392] The languages of birds are typically learned by eating a reputedly "magical animal," such as a snake. Birds and other animals are frequently thought to contain the souls of the dead or to be manifestations of the gods. The use of bird and other animal languages enables communication with the unseen realm and the heavens.[393] Upper Paleolithic flutes may have been used to imitate bird languages in the course of rituals in which communion with the gods or the souls of the dead was sought.

In some shamanic traditions, the production of bird and other animal languages within the context of rituals is an indication that the shaman is able to move freely throughout the three cosmic realms – underworld, earth, and celestial. He is able to commune with the souls of the dead or the gods because of his ability to access to the underworld and celestial realms.[394] The imitation of bird language is a means of transforming the shaman into a bird, enabling his travel to realms that are impenetrable to others. Transformation into bird form is also achieved by other means, such as wearing shamanic

[392] Ibid., 98.
[393] Ibid., 98.
[394] Ibid., 99.

costumes that resemble birds or by concealing the face behind a bird mask.[395] An engraving of a man who appears to be wearing a bird mask (fig. 7-2)[396] was found at the site of Isturitz, where over twenty flutes and flute fragments were also found.[397] This image and the number of flutes found at Isturitz further suggest that the artifacts may have been employed to imitate bird language, facilitating shamanic transformation into bird form.

Figure 7-2. Engraving of a man wearing a bird mask, Isturitz, Pyrénées-Atlantiques.

[395] Eliade, *Shamanism*, 99.

[396] René de Saint-Périer, "Quelques oeuvres d'art de la grotte d'Isturitz," *Bulletin de la Société Préhistorique Française* tome 32, no. 1 (1935): 71.

[397] The man's transformation into bird form is also suggested by the appendage engraved at the bottom of the stone. The appendage resembles a wing more closely than a human arm.

The iKung culture strongly values animals and the continuity of human relationships with them. Their rituals, particularly those conducted by shamans, are an essential means of maintaining human-animal relationships.[398] One of the primary aims of shamanic trance is communication with animal spirits. In !Kung society, the trance state allows for the animal spirits to enter humans (i.e., shamans). Trance also enables transformation from human to animal form. In shamanic trance, the shaman's spirit may also be transformed into animal form.[399] Animals are viewed as messengers between the visible and spirit worlds.[400]

Among the !Kung, music is a primary means of inducing shamanic trance. There are two types of shamanic songs. The first includes songs that relate stories about animals and their connections to the social and spiritual lives of humans. In the second category are songs that imitate animal sounds. Either the voice or instruments, or both, may be used to mimic animal sounds.[401] Both types of songs are performed during shamanic rituals, inducing the trance state that enables communication with animal spirits. Imitation of animal sounds to induce trance states in iKung shamanism raises the possibility that Upper Paleolithic flutes may have been used to imitate animal sounds in similar contexts. In this case, the imitation of animal sound – bird

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[398] Fridman and Namba, eds., *Shamanism*, 5.
[399] Ibid., 5.
[400] Ibid., 5.
[401] Ibid., 5.

song, in particular – would have facilitated the transformation of shamans into bird form.

Although Upper Paleolithic flutes likely facilitated transformation in the context of shamanic ritual, ethnographic evidence suggests that they most probably functioned in other ways as well. The life-giving power of the flute connects it with male-female union and procreation in a number of cultures.[402] In numerous indigenous North American cultures, such as the Cheyenne and Sioux, the flute is associated with courting and love and is thought to have magical properties that may be used in the seduction of young women. In these cultures flute-playing was an integral part of life, a culturally-constructed phenomenon associated with courtship. Among the Sioux, playing the flute constituted a marriage proposal, and love songs were often based upon flute melodies.[403] Although according to Sachs the flute was originally connected with rebirth and fertility magic, this association later devolved and the flute became associated with love magic. Indigenous North American cultures provide numerous ethnographic examples of the flute's connection with this form of magic. It was commonly used in courting among peoples of the Great Plains. A young man played his flute to beckon a young woman. She would leave her tee-pee and walk to where the young man awaited her. He stood with a blanket around his shoulders and lifted it to

[402] Sachs, *History of Musical Instruments*, 45.
[403] Sachs, *Wellsprings of Music*, 95.

cover both of their heads, rendering them "invisible" to other people in the village. In this way, the couple could talk with each other in privacy.[404] Among the Cheyenne, a young woman would leave her lodge upon hearing a flute and wait outside for the young man who approached as he played.[405] Among the Sioux, young men also played the flute to woo young women.

North American flutes have been fabricated from a variety of materials, including river reeds, wood, bamboo, bird bones, and other animal bones. Despite its fabrication from a variety of materials, the flute remains closely connected with birds throughout North America. The flutes of the Anasazi were fabricated from the wing bones of birds. Additionally, flutes were crafted to resemble birds in a number of cultures. Shaping flutes to resemble birds in this manner offers ethnographic evidence that the fabrication of Upper Paleolithic flutes from bird bones was symbolically meaningful and not merely practical. The Abenaki of the northeast made flutes that resembled loons. When away from home, Abenaki men would play "lonesome songs" on these flutes.[406] A Lakota myth recounts how a red-headed woodpecker showed a young man how to make the first flute so that he could play his love song on it. In a number of other cultures, the flute is associated with the woodpecker as well. There is a prevalent myth that the first flutes were

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[404] Joseph Bruchac and Michael J. Caduto, *Keepers of the Animals: Native American Stories and Wildlife Activities for Children* (Golden, CO: Fulcrum Publishing, 1997), 140.
[405] Sachs, *History of Musical Instruments*, 45. Certain flutes were imbued with more power that others, and a medicine man possessed the ability to transfer his power to a young man's flute to increase its seductive power.
[406] Bruchac and Caduto, *Keepers of the Animals*, 140.

created after a woodpecker drilled holes in a tree and the wind blew through the holes, producing a beautiful sound.[407] The oldest North American flute that has been found is from the wing bone of a large bird.[408] It was found in the burial mound of a child of about twelve years of age.[409] The deposition of a bird-bone flute in the child's grave suggests that the instrument was symbolic of spiritual flight in the afterlife and rebirth or reincarnation.

The significance of animals in indigenous North American cultures may elucidate the symbolic associations of Upper Paleolithic flutes fabricated from animal bones, whether mammoth tusks or bird bones. Animals are vital links between the human, natural, and spiritual worlds and communicate important knowledge and teachings. Animals are often referred to as "Animal People," spiritual beings embodying the animals' vital characteristics. They have transformative power and are thus instrumental in rites of passage, hunting rituals, healing ceremonies, and rituals in which the world itself is renewed. The relationship between Animal People and humans was established during a mythological creation time. A shaman may develop a personal connection with a particular animal through a visionary experience, or the relationship may be an inherited one. The animal form is expressed in

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[407] It is significant that the flute is associated with the red-headed woodpecker rather than another species of woodpecker in these cultures. The color red is one of the complex of symbols associated with the flute, according to Curt Sachs.

[408] Robert J. McGhee, "L'Anse Amour Site," in *The Canadian Encyclopedia*, 2011, accessed October 22, 2012, http://www.thecanadianencyclopedia.com/articles/lanse-amour-site.

[409] The flute is approximately 7,500 years old. It was discovered at L'Anse Amour on the coast of the Strait of Belle Ilse in Southern Labrador.

the symbols used to adorn the shamanic costume, shamanic songs, and the movements of the shaman's dance. He may be transformed into one of several animals, including the eagle, wolf, and jaguar. It is the shaman's relationship with a particular animal that enables his travel to other dimensions.[410] Animals may have held similar significance in Upper Paleolithic culture.

The significance of animal bones in indigenous North American cultures suggests that Upper Paleolithic bone flutes may have been associated with regeneration. Among North American peoples, the bones of game animals are venerated. The bones commonly symbolize the souls of the animals. Accordingly, the bones of an animal are returned to their place of origin in order to facilitate the animal's rebirth.[411] The use of mammoth tusk ivory and bird bones to create Upper Paleolithic flutes suggests that a similar complex of beliefs may have existed at that time. Because flutes were fabricated from these materials, they would have been symbolic of transformation, regeneration, and renewal.

While the flute is connected with love magic throughout North America, it is associated with women's sexuality among the Cuna people of Panama. Flutes are used in virginity tests in the context of girls' initiation rituals. Two cane flutes are tied together, wrapped in a leaf, and given to a

[410] Fridman and Namba, eds., *Shamanism*, 7.
[411] Fridman and Namba, eds., *Shamanism,* 9-10.

flute-player. The flute-player unwraps the flutes, and if they remain in their original position it is determined that the girl is a virgin.[412]

In ancient Greek literature, panpipes were similarly used in a test of virginity. Achilles Tatius, an author of the second century or earlier, wrote in his *Leukippe and Kleitophon*, of a virginity test involving the heroine of the work, Leukippe. The heroine's virginity is central theme in the work. Pan leaves a syrinx in a cave. As Leukippe enters the cave and passes by the syrinx, it would sound a melody if she were not a virgin and remain silent otherwise. The syrinx melody is symbolic of sexual union. This symbolic association is seen also in the story of Pan and the nymph Syrinx, who was turned into reeds in order to escape from the amorous Pan. Pan cut the reeds and fashioned them into a panpipe. Playing the panpipe thus symbolized the sexual union with Syrinx that was thwarted. Interestingly, in *Leukippe*, the panpipe is associated not only with fertility, but also with the cave, birds, and rebirth. In this work, a priest examines the genitalia of a phoenix, and this is a foreshadowing of Leukippe's virginity test. The same connection between birds, sexuality, fertility, rebirth, and the cave seems to have existed even in the Upper Paleolithic era.

Ethnographers in the Papua New Guinea Highlands have studied the "sacred flute complex," which is distributed across the region and shared by a number of societies. This complex has been documented by ethnographers

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[412] Sachs, *History of Musical Instruments*, 45-46.

over several decades of the twentieth century. The encroachment of modern life has led to waning traditions associated with flute cults in recent years. The sacred flute complex is the basis of men's cults, and the flute is the central symbol of male hegemony. Rites involving flutes are means of maintaining male power.[413] The flutes of the Highlands are typically transverse flutes made of bamboo. They are sacred in that they are played almost exclusively in ritual contexts, are associated with supernatural beings or forces, and are surrounded by secrecy.[414] Sacred transverse flutes confined to male cults are found not only in the Highlands of Papua New Guinea, but also along the northern coasts of Irian Jaya, across the northeastern and northern coasts of Papua New Guinea, along the Ramu and Sepik Rivers, and in parts of the southeastern coastal region and surrounding areas.[415]

In the Papua New Guinea Highlands, the peoples who have sacred flute cults can be grouped according to language groups. The Wojokeso, Baruya, Simbari, and Sambia speak languages of the Angan language family. The sacred instruments of these groups include bullroarers as well as sacred flutes. Other Angan-language groups use sacred bullroarers, but not flutes. These include the Kapau, Angaataha, Neya, and Yagwoai. Most groups of the Eastern-language family have sacred flutes. These groups include the Waffa,

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[413] Terence Eugene Hays, "Sacred Flutes, Fertility, and Growth in the Papua New Guinea Highlands," *Anthropos* Bd. 81, H. 4./6. (1986): 435.
[414] Ibid., 436.
[415] Ibid., 436.

Tairora, Gadsup, Agarabi, Usarufa, Auyana, and Awa. All of these groups also have sacred bullroarers. The Binumarien is only group of the Eastern-language family that does not use sacred flutes. This group uses only sacred bullroarers. Groups of the East-Central language family that possess sacred flutes include the Fore, Yagaria, Yate, Kamano, Gimi, Benabena, Yabiyufa, Siane, Gahuki, Asaro, and Gende. The Fore, Yate, Kamano, and Benabena also possess sacred bullroarers, and the Siane also play a bamboo horn that is considered sacred. The Kuman Chimbu, Chuave, Salt-Yui Chimbu, Marigl Chimbu, Wahgi, Narak, Medlpa, and Gawigi are groups within the Central language family that possess sacred flutes. None of these groups appear to use other sacred instruments. Other groups known to possess sacred flutes are the Kewa of the West-Central language family, the Daribi of the Teberan language family, and the Wiru. The sacred bullroarers possessed by a number of groups are men's cult instruments, as are the sacred flutes. Most groups distributed throughout the Highlands play the sacred instruments in the contexts of initiation rituals, pig festivals, or unspecified cult ceremonies.[416]

Throughout the Highlands of New Guinea sacred flutes are played in pairs. Usually, the two flute players face each other and play in alternation. In some cases (e.g., among the Gimi and Sambia), the larger flute in the pair is

[416] Hays, "Sacred Flutes, Fertility, and Growth," 436-37. The list of groups possessing sacred flutes presented here is most likely not a comprehensive one. Only groups known to possess sacred flutes have been included. There may be additional groups within each language group that use sacred flutes. Additionally, some of the groups listed may not presently possess sacred flutes due to cultural changes resulting from contact with members of foreign cultures.

regarded as the male flute, and the smaller the female.[417] The Gende, on the other hand, consider the larger flute female, and the smaller one the male.[418] The attribution of male and female genders to pairs of sacred flutes has been reported among the Simbari, Awa, Asaro, Yate, Kamano, and Narak as well.[419] The attribution of gender to flutes appears to be almost universal in the Highlands, although flutes are not always regarded as male and female. The Usarufa and Tairora consider both flutes male, and it appears that both are considered female among the Auyana, who say the flutes represent a "spirit woman."[420] The attribution of gender to pairs of sacred flutes is not limited to the Highlands, but occurs in the lowlands and coastal regions as well.

Men in the Highlands associate particular tunes with the flutes. Among the Sambia, Gahuku, Benabena, Kuman Chimbu, Kamano, Usarufa, Yate, Fore, and Asaro, certain tunes are associated with or owned by descent groups, such as clans, subclans, and phratries.[421] Playing another group's tune might call for compensation or even lead to warfare. The flute tunes are symbolic of a group's identity and the continuity of this identity over time. However, the flutes have meaning that extends beyond group identity. Flute tunes in many areas of the Highlands evoke strong emotions in the men who hear them. The tunes have been said to arouse sexual desire among the

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[417] Hays, "Sacred Flutes, Fertility, and Growth," 437.
[418] Ibid., 438.
[419] Ibid., 438.
[420] Ibid., 438.
[421] Ibid., 439. A phratry is a tribal subdivision comprising several totemic clans.

Asaro.[422] The flute spirit of the Simbari is a young woman named Numambi, who lives in the forest and is the men's "secret wife."[423] The association of sacred flutes with sexuality is also seen in other Highland groups. The Auyana consider the flute spirit a middle-aged woman with a child. Ethnographers have been told that she makes flute-like sounds "because the men were holding her and doing things to her, not good things either."[424] The Kuman Chimbu refer to flutes as "koa," which means both "vagina" and "menstrual blood."

Women and children are told stories about the flutes, but these do not reflect the profundity of the intimate relationship men have with the flutes. The Tairora publicly declare that the sounds of the flutes are voices of male spirits. Gadsup women who have heard flutes have declared that "the grandparents are returning."[425] The sounds of flutes are publically considered voices of the ancestors among the Usarufa and Gimi as well. Flute sounds were decreed to be the voices of spirits among the Baruya and cries of a malignant spirit among the Kamano. The Sambia refer to sacred flutes as "frog females" and believe that they are vitalized by an old female spirit who

[422] Ibid., 439.
[423] Ibid., 440.
[424] Ibid., 440.
[425] Ibid., 440.

is inimical to women. Boys are told that this spirit wanted to kill or eat them, but men are her intimates.[426]

The most common public dogma regarding sacred flutes in Papua New Guinea and Irian Jaya is that the sounds of the flutes are the sounds of sacred birds. Flutes are often associated with the cassowary. Sacred flute cults from the Awa westward explicitly refer to flutes as birds.[427] Awa women and children are told that the sounds of the flutes are made by a threatening, black spirit bird. Only upon initiation are boys told that the flute sounds are made by a spirit couple who live in the forest. The Gimi and other groups to the west use the same term, "nimi," for both flutes and birds. Pairs of special large flutes are called "Mother of the Birds."[428] The Yagaria also use the same term, "dama" or "nama," to refer to both flutes and birds, and women and children are told that flute sounds are made by "weird birds."[429] The Benabena refer to sacred flutes as "nama" and say that flute sounds are made by a mythical, demonic bird. Gahaku men, who also refer to flutes as "nama," tell women and children that the flute sounds are made by mythical, carnivorous birds. Asaro flutes, also called "nama" or "namo," are likewise considered to be animated by mythical birds. The flutes of the Siane represent monstrous birds and are at times accompanied by the "Mother of Birds," a

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[426] Ibid., 440.
[427] Ibid., 440.
[428] Ibid., 441.
[429] Ibid., 441.

large bamboo and gourd horn. The Gende give a particular bird name to each pair of sacred flutes. Flutes of the Kuman Chimbu are associated with a large bird similar to a cassowary that lives in the forest and hatches its eggs under a large stone – or more generally with large spirit birds. The Waghi-speakers refer to both flutes and birds as "ka" or "kai." Women and children are told that the sounds of flutes emanate from a mysterious bird, which is sometimes identified more specifically as a lesser bird of paradise that has grown to the size of a cassowary. The Medlpa and Gawigi refer to sacred flutes as birds, and the name of their sacred flute cult is "keitamb," which may be translated as "I will receive (eat) the bird."[430] It seems likely that Upper Paleolithic flutes fabricated from bird bones were similarly associated with birds or bird spirits. As in New Guinea, the flutes and their sounds may have had multiple layers of meaning, particular meanings for women and children and others for initiated men. The association of sacred flutes not only with birds but also with sexuality corroborates the connection between Upper Paleolithic flutes, birds, and sexuality. There is ethnographic evidence that flutes are associated with both birds and sexuality in other parts of the world as well.

In a number of cultures, flutes are restricted to the initiated male members of the society. Flutes must not be seen by women, children, or uninitiated men.[431] The identification of flutes as birds or bird spirits among

[430] Ibid., 441.
[431] Sachs, *Wellsprings of Music*, 95.

many groups not only in New Guinea, but also in other parts of the world, is an attempt to prevent women and uninitiated boys from seeing the sacred flutes. In the Highlands of New Guinea, among the Simbari, Yagaria, Gimi, Fore, and Waghi, male cult participants will execute women who see the flutes. Among other groups, such as the Awa, Siane, and Gende, the spirits associated with the flutes are said to kill women or boys who see the sacred flutes. Kuman Chimbu women and children who see the flutes may become deformed, infertile, or die. The prohibitions are not universal among some Highlands groups. Old women of the Benabena and Gahuku are allowed to see the flutes when they pass by in processions, and old Chuave women are allowed to handle the flutes. Some Asaro post-menopausal women are made guardians of the flutes at the conclusion of pig festivals and use the magical power of the flutes to ensure success in raising the next generation of pigs. Among the Kuman Chimbu, only old women whose children are grown and who no longer raise pigs or plant sweet potato are allowed to see the flutes.[432] In both of the latter examples, the association of flutes with fertility is clear.

Sacred flutes are most often played in the context of initiation ceremonies and pig festivals in the Highlands. They are also occasionally played during the performance of other rituals. Flutes accompany the funerals of young men or bachelors among the Sambia. Among the Kuman Chimbu, flutes might be played at a man's funeral if his descent group had not yet

[432] Hays, "Sacred Flutes, Fertility, and Growth," 443.

revealed its flute to him. Awa men might play sacred flutes to assist women experiencing difficulty in childbirth. The Fore utilize flutes in the context of a ritual in which men make down payments on bride payments. Gahuku men play flutes in the context of a fertility ritual, while Gimi men pour water through them as part of a curing ritual. The Siane play flutes in order to purify a men's house after a woman has eloped there. The Kuman Chimbu play flutes to celebrate the killing of an enemy or a successful raid. The Gende play them during a child-naming ceremony, and the Daribi play them when groups of young men gather and when peace has been established between warring groups. Both the Gimi and Daribi play flutes in order to drive off ghosts in the context of curing rituals. The flute's connection not only with the masculine, but also with fertility, life, and rebirth, is evident in its use within these contexts.

Although in the Papua New Guinea Highlands the flute may be played in a variety of ritual contexts, the instrument is most closely associated with the initiation of novices into the male flute cults. The bullroarer also accompanies such initiation ceremonies among some groups. Throughout Papua New Guinea, flutes are initially revealed to male novices during initiation. It may be that the fellation of bachelors is commenced upon initiation as well, as this, in addition to nose-bleeding, is an important component of the initiation rites of boys of six to fifteen years of age among a

number of groups, including the Simbari, Sambia, and Yagwoia.[433] Flutes, as well as bullroarers, are played in the initiation rituals of the Agarabi, Auyana, Tairora, and Gadsup, as boys of ten to sixteen years of age are initiated into the flute cults. These initiation ceremonies involve various combinations of cane-swallowing, nose-bleeding, tongue-cutting, and penis-cutting. While the flutes are revealed to the boys at the outset of the initiation process in some cults, this revelation is delayed in other cases. In Tairora flute cults, the flutes are not revealed to initiates until a later stage in the initiation process, when the young man is eighteen to twenty years of age and able to marry. In Awa flute cults, a new initiate is told that the flute sounds are not those of birds as he had previously been told, but the sounds of a "spirit couple" who live in the forest. Only later, when the youth is eighteen to twenty years old, is he told that the sounds are made by men playing the flutes.[434] The deposition of flutes in caves during the Upper Paleolithic era, in addition to evidence that male youths were in these caves (i.e., their surviving footprints) suggests the possibility that similar male initiation ceremonies were performed at that time.

Flute cults of the Papua New Guinea Highlands assert men's power over women. Women are not only forbidden to see the flutes, but are terrorized by members of the cults in some situations. For example, among the Benabena, during pig festivals, women are obliged to offer food to the

[433] Ibid., 443-44.
[434] Ibid., 444.

"nama." A flute player enters the village and visits each house. The women are required to crack the door and offer food while averting their eyes. A second man scratches the woman's hand with a piece of bamboo, which she is told is the bird's beak.[435] The flute thus becomes an instrument of power, and it is possible that Upper Paleolithic flutes were used similarly.

Throughout the Papua New Guinea Highlands, flutes are associated with fertility and growth. In addition to their other functions, the instruments are ubiquitously endowed with the power to ensure fecundity and growth or are capable of conjuring up the supernatural forces required to do so. For the Kainantu, the flutes are potent instruments that have the power to bring about fertility because they have been anointed with pigs' blood. The Gahuku believe that a benevolent force resides in the flutes. This force lies behind the continuing order of all things. The Benabena flutes are played to obtain the favor of the patriarchal ancestors, who have the power to ensure the people's success and fertility and the continuity of life.[436] Since flutes are endowed with such power, they are used in the context of male initiation rites. The flutes have the power to transform boys into men and warriors.

The Sentani of New Guinea play bamboo flutes that are up to six meters long. These are venerated instruments that are used in a number of rituals associated with fertility. The flutes are used as phalluses during rituals

[435] Ibid., 445.
[436] Ibid., 448.

involving copulation with the chief's wife. Flutes are also played by men in the forest while a widow is compulsorily copulating with a male relative, as required by tribal law. In addition, girls are ritually deflowered in front of flutes in the spirit house, or ceremonial house, of the village.[437] Sentani men move their lower torsos back and forth while they play flutes, evidence of the association of the flute with the act of copulation.[438] According to Curt Sachs, procreation is one theme within a complex of associated ideas. The central unifying theme of this complex of associations is the power to create life. This complex includes procreation, birth, rebirth after death, blood (as blood is essential for human and animal life, an indication of female fertility in menstruation, and present during birth), the color red (as with blood), circumcision (as it is performed in rites of passage preparing men for adulthood and parenthood in many cultures), the harvesting of crops and trees (as it is hoped that these will be replenished by new growth), and the midday sun (as the sun sustains plant life).[439] Because they are associated with this complex of ideas, the sacred flutes of the Sentani are coated with blood. The flutes of numerous other peoples throughout the world are painted red or decorated with red in some form.[440]

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[437] Sachs, *Wellsprings of Music*, 95.
[438] Sachs, *Geist und Werden*, 20.
[439] Ibid., 20.
[440] Ibid., 20.

Among the Monumbo of New Guinea, the flute is a symbol of life itself. It is a conduit of the breath and, by extension, of the human soul.[441] On the north-east coast of New Guinea, the Monumbo tribe perform a ceremony in which a sacred flute is inserted into the vagina of the wife of the chief of the clan. The transcendental power of the flute – its life-bestowing capability and power to initiate rebirth – require that this instrument be utilized in the performance of the ritual. After the flute is inserted into the vagina of the chief's wife, all the men present at the ceremony copulate with her. As the older, initiated men insert the flute into the woman's vagina, they say, "We have placed this in a hole of a barimbar tree; it went inside; the barimbar tree shook and cried."[442] The Monumbo believe that younger souls are transformed into lightning or shooting stars upon their deaths. Older souls are transformed into one of a number of plant or tree species, one of which is the barimbar tree. It is the insertion of the sacred flute that brings about the unification of the chief's wife with the soul of an ancestor of the clan.[443] The flute is employed before the ritual copulation, as it is the transformative and regenerative powers of the instrument that transform the copulation into the process of spiritual unification.

The Banaro people of central New Guinea hide sacred flutes within a sanctuary. It is within this sanctuary that virgins are ritually deflowered in the

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[441] Schaeffner, *Origine des Instruments*, 240-41.
[442] Sachs, *Geist und Werden*, 20.
[443] Schaeffner, *Origine des Instruments*, 241.

presence of the flutes, as with the Sentani. The father-in-law of the young woman has the "rite of the first night." However, he allows another man of the same tribe to perform the rite. The man waits for the young woman at the sanctuary, or spirit house. He leads her as "spirit" to the place where the sacred flutes are kept hidden and deflowers her in front of them.[444] The Banaro also deposit the ashes of all deceased men in the spirit house. The ashes are kept before the sacred flutes for a period of two months. When the ashes are buried two months later, men of the tribe play the sacred flutes in the forest. While the flutes are sounded, the widow has sexual intercourse in the house of the dead man with a relative of her deceased husband.[445] The association of the flute with the idea of rebirth is clear.[446] Among the Banaro and Monumbo, the flute marks various phases, or transitions, in the life cycle.[447] The flute has the power to bestow life. It is thus connected with the deflowering of virgins, marking the beginning of the life stage in which they become vehicles of life.

It is significant that the flute, as a marker of transitions within the natural cycle of life, physically resembles a phallus, the male organ of generation.[448] The flute is associated with male puberty rites among the people of the island of Wogeo in Papua New Guinea. In this rite of passage,

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[444] Sachs, *Geist und Werden*, 20.
[445] Schaeffner, *Origine des Instruments*, 20.
[446] Sachs, *Geist und Werden*, 20.
[447] Schaeffner, *Origine des Instruments*, 241.
[448] Ibid., 241.

the tongues of the initiates are cut. Cutting the boys' tongues is said to rid them of their mothers' blood, which they consumed through nursing. The bloodletting is the equivalent of girls' menstruation, and the male puberty rites coincide with the first menstruation of the girls. It is said that cutting the boys' tongues makes them supple, which is considered an asset in playing the sacred flute.[449]

As it is across New Guinea, the flute is restricted to males and connected with issues of gender power among three tribes of central Brazil – the Mundurucu, Kamayura, and Kalapalo. The Mundurucu, who live by the lower Madeira River in the Amazon, play the karoko, a flute with a deep, mournful sound. The sound is produced as the airstream is directed through a vibrating chamber in which there are two adjacent reeds. The instrument is played by groups of two or three men. In a group of three men, the oldest plays the midsize flute, and the others play the larger and smaller flutes in harmony. There is an origin myth that women first played the flutes. In this myth, three women, Yanyonbori, Tvembiru, and Parawaro, heard music coming from Lake Karoloboapti. They approached the lake but saw only jiju fish. The women returned to gather nets and in these caught one fish each. They were going to play the fish as flutes, but the men became suspicious and restricted their playing to their homes. They were not allowed to play in the

[449] Barbara Tedlock, *The Woman in the Shaman's Body: Reclaiming the Feminine in Religion and Medicine* (New York, Bantam Dell, 2005), 199.

forest. Yanyonbori's brother, Maimarebo, then plotted to capture the women's flutes by threatening not to hunt anymore. Yanyonbori plotted in return. The men were required to sleep for one night in the women's homes while the three women played the flutes. The women engaged in intercourse with the men. Then, the women and men both went to the men's homes, where the women, crying, relinquished the flutes to the men. The Mundurucu flute ceremonies imitate the events of this myth. Meat is offered at the mouths of the flutes, after which the women prepare a drink of manioc starch while the men hunt. Then, the men circle the village, three playing the flutes and the others shielding the flute-players from the women's view. The women are required to shut themselves inside their homes, and they wail in grief at their loss of power. As in cultures throughout New Guinea, the flute is a symbol of men's power over women, who possess natural life-giving power over men in their ability to give birth. The mother ultimately threatens male individuation and authority, and the vagina is thus considered destructive. Although the flute rituals of the Mundurucu assert male power, the instrument is symbolic of both the male and the female. It is male in its phallic shape, but the cavity of the flute is evocative of the vagina. The Mundurucu believe that the cavities of flutes contain the ancestral spirits, just as the vaginas of women contain the regenerative power of the tribe.[450]

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[450] Laura Barron, "The Forbidden Flutes: Melanesian and Amazonian Gender Ideologies as Reflected in Various Flute Rituals," May 1991, accessed Febrary 13, 2013,

The Kamayura of central Brazil also use flutes in ritual contexts. The flutes are played during three rituals. The first of these is the Jacqui, in which the benevolent spirit mothers of fish are evoked. Three men play flutes. The master flutist plays the longest of the three flutes, while two other men accompany him on smaller instruments. The master flutist begins with a simple two-note melody and later adds a third note while doubling the length of the notes. All three men conclude the performance by sustaining the third pitch in unison. Women are confined to their homes and forbidden to observe the ritual. If a woman does observe the ritual, the men rape her. In Kamayura mythology, the women originally possessed the flutes. Two twins, the Sun and the Moon, frightened the women with their bullroarers. When the women ran away, the twins took the flutes they had left behind, thus appropriating the women's power. The tawari, a double-barreled bamboo flute symbolic of Tawari, the domestic guardian spirit, is played in a second ritual, called the Taquara. A dance is performed as part of this rite. Two men play two pitches each on their flutes. The musical phrases become shorter and shorter, and this process is representative of the elimination of evil achieved through the performance of the ritual. Urua flutes are played during the feasts and festivities of the second half of the Kwarip ceremony, which functions simultaneously to commemorate the dead, join young men and women in marriage, and commune with the ancestral spirits. Urua flutes are hardwood

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http://www.laurabarron.net/articles/gender_article.htm.

flutes capable of playing five pitches. They are associated with a creation myth in which Mauvtsinim, the creator, made five daughters out of wood, so that one of them would become the mother of the Sun and Moon. The Urua hardwood flutes thus symbolize the procreative power of women. Men are the predominant performers of the Kwarip ritual, dancing until dawn and then moving from house to house as they play the flutes. Men paint their bodies as well as the logs that surround the flute house. Women and children are not allowed to see this part of the ceremony, although they are allowed to participate and play the urua during the feasting and festivities. The move from two to three notes in the Jacqui and the inclusion of women in the latter half of the Kwarip appear to symbolize resolution of the conflict between men and women, balancing the polarization between the genders.[451]

The Kalapalo are a third people of central Brazil for whom flutes possess symbolic significance. The Kalapalo live in the Upper Zingu Basin, and perform week-long ceremonies during the six-month rainy season. Kagutu flutes are utilized in these rituals. These are large, hardwood, horizontal flutes. As in the Jacqui ritual of the Kamayura, three men play the flutes, and women are not permitted to observe the ceremony or see the flutes. The flutes are used to accompany songs in which the master singer, singing in falsetto, asks the oto, or sponsor, to supply food and drink. The Kagutu are also used to accompany *itolotepe*, songs that are composed by women but

[451] Ibid.

performed by men. These songs are about marriage, food taboos for women, and rivalry among the women. In this context, flutes function to mediate gender relations rather than to establish male hegemony. In Kagutu mythology, a man named Taugi caught three fish, which became flutes. This recalls the Mundurucu origin myth. The opening of the flute is considered vaginal.[452] The time in which flutes are stored on the rafters is considered a period of menstruation. Although the itolotepe mediate relations between men and women, the men also perform flute rituals that the women are not permitted to observe. As is the case with the Jacqui ritual of the Kamayura, the men will rape a woman who observes this secret rite.[453] The flute is associated not only with gender relations in these rituals, but also with male and female sexuality, and thus the procreative power of both men and women. It embodies the life force. The creation of music with the player's breath is analogous to the creation of life.

The flute is symbolic of the life force among the aboriginal peoples of Australia, for whom the flute is by extension associated with blood, the color red, red ochre, and birds. The prevalent use of red ochre in the Upper Paleolithic era may be explained by indigenous Australians' beliefs about ochre and the earth's magnetic fields.[454] The indigenous Australians respect

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[452] Ibid.
[453] Ibid.
[454] Christopher S. Henshilwood et al., "A 100,000-Year-Old Ochre-Processing Workshop at Blombos Cave, South Africa," *Science* 334, issue 6053 (October 14, 2011): 219. There is

the force of magnetic energy and its influence on all forms of life. They recognize that ochre and blood increase one's sensitivity to magnetic forces.[455] The name for ochre is "clay mixed with blood."[456] Indigenous Australians pound and bake the ochre, thereby chelating its ferrous oxide compounds. These compounds are present in blood as well as red ochre. They "cause cells and molecules to line up parallel to the lines of force of surrounding magnetic fields."[457] When rubbed on the body, these compounds make one extremely sensitive to magnetic fields. Sensitivity to magnetic fields is of primary importance to the indigenous Australians as these fields govern cycles of growth for humans and other forms of life. Magnetic fields are personified among aboriginal Australians as ancestral beings or gods.[458] The association of the flute with blood, the color red, red ochre, birds, and magnetic forces that govern the cycles of nature is again indicative of the instrument's embodiment of life forces.

Because the flute is part of the constellation of symbols that includes red and blood,[459] the flute becomes associated with the earth's magnetic forces, and thus, the cycles of growth in human, animal, and plant life. The

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evidence that humans used red ochre even before the Upper Paleolithic period to paint the human body, cave walls, or other objects as long as 100,000 years ago. Two abalone shells filled with a mixture of ochre, ground bone, and charcoal were found at Blombos Cave (South Africa) in levels dated to 100,000 years ago. This is not the earliest evidence that humans used ochre, but is the earliest evidence that it was a component of a chemical mixture.

[455] Lawlor, *Voices of the First Day*, 101.

[456] Ibid., 102.

[457] Ibid., 102.

[458] Ibid., 100-01.

[459] Sachs, *Geist und Werden*, 20.

predominance of animals in Upper Paleolithic art suggests that at that time these cycles and forces were recognized. The appearance of ochre on numerous Upper Paleolithic artifacts suggests that the people of the time may have had knowledge of the power of ochre to augment one's sensitivity to magnetic forces. It is possible that Upper Paleolithic people used ochre, and perhaps blood, to cover their bodies as well as artifacts.

The panel of the bison-man at Les Trois Frères (see figs. 6-14 and 6-15) further suggests that the flute was associated with the magnetic forces and the cycles of life, especially of animal life. His instrument may very well be a flute. The connection between the flute and the various cycles of life becomes apparent in this engraving, in which the various animal activities seem to symbolize various phases of their lives. The bison-man, through playing his flute at their center, seems to control these cycles magically by means of his music. In this panel, the flute appears to have the additional power to create union, as it does in the ritual of the Monumbo discussed above. It appears that the flute is a means by which the bison-man is able to merge with these animals, as well as control them. The prominent vaginal opening of the animal in front of him as well as his erect phallus are symbols of union that extends beyond physical intercourse. In this image, we see the desire or intention to unify human and animal forms of life. In the case of the Monumbo ritual, the insertion of the flute into the vagina of the chief's wife and the ensuing copulation are both symbolic manifestations of the desire to

establish union. Again, union extends beyond physical sexual union. Union is established between the chief's wife and the ancestor of the clan. The insertion of the flute and ritual copulation establish, by extension, union between the men of the clan and the clan's ancestor.

In the many ceremonies and rituals of the aboriginal Australians that involve dancing, the naked bodies of the dancers are rubbed with ochre or blood. It is believed that the ochre or blood establishes a connection between the dancer and the invisible realms.[460] In sacred ceremonies restricted to men, blood is extracted from their arms, exchanged, and rubbed over their bodies.[461] "Blood is also used to fasten the feathers of birds onto people's bodies. Bird feathers contain a protein that is highly magnetically sensitive."[462] It is this property of blood that facilitates the connection with the invisible, energetic world. The use of blood to fasten bird feathers onto the body is yet another instance in which blood and birds are parts of the same complex of elements (i.e., that complex that includes birds, blood, the color red, the harvesting of trees and plants, rebirth, regeneration, etc.). This connection is significant with respect to the flute because the flute belongs to this complex as well. The flute thus becomes connected with the same powers exhibited by blood, ochre, and bird feathers. These augment one's sensitivity to magnetic forces, and thereby, enable access to the spiritual realm. The flute's

[460] Lawlor, *Voices of the First Day*, 102-03.
[461] Ibid., 102-03.
[462] Ibid., 102-03.

association with birds, blood, and red ochre implies that it, too, is linked to the ability to penetrate unseen spiritual or energetic dimensions.

Birds function as psychopomps in Australian aboriginal culture. Birds play a significant part in the journey of spirits at the time of their deaths. They are believed to absorb the energy of the deceased and transport it to other realms.[463] Months to years after a person's death, the widow or husband of the deceased gathers a group of kin to assist with the reburial process. After mourning rites are completed, the remaining spouse goes to the grave with a group of ten or more mourners. As the group approaches the grave, the remaining spouse sings out to warn the deceased's spirit that they have arrived. The spirit's answer comes in the form of a bird song. Once the bird call is heard, the widow or widower approaches the grave together with the shaman.[464]

Birds and bird bones are also employed to identify the person responsible for the death. At times when sorcery is thought to have been the cause of death, a shaman utilizes various means of identifying the responsible person. It is thought that birds have the ability to absorb the innate or higher intelligence of the deceased. Thus, shamans sometimes employ birds to locate the sorcerer responsible for the death. If a small bird that has nested near the

[463] Ibid., 355.
[464] Ibid., 354-55.

grave lights on the shoulder of one of the clan members, that person is identified as the murderer.[465]

Among indigenous Australians, birds are significantly linked to death in another manner. It is believed that one may inflict death upon another through a practice known as bone-pointing. Bone-pointing is a lethal form of sorcery thought to involve subtle energies similar to magnetism.[466] Although human or kangaroo bones may be employed, bird bones are considered the most effective. The bone may be covered with blood, and the blood of a deceased person or the intended victim is considered the most efficacious.[467] In bone-pointing, the bone is thought to bring about the victim's death by means of either polluting the blood or withdrawing its life-sustaining energy.[468]

There is ethnographic evidence that Upper Paleolithic artifacts generally considered to be flutes may have functioned in a more pragmatic manner. Ethnographic comparison suggests that certain artifacts – flutes, bird bone tubes without holes, and pierced reindeer phalanges (fig. 7-4) – may have functioned primarily, or secondarily, as sound-producers that assisted in hunting. Hunters may have imitated the sounds of animals in order to lure prey within catching distance. Ethnographic evidence of such practices is

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[465] Ibid., 355.
[466] Ibid., 357.
[467] Ibid., 357.
[468] Ibid., 357.

found in Scandinavia, where more recent artifacts closely resembling Upper Paleolithic artifacts have been excavated. Scandinavian artifacts dating to the Neolithic period (ca. 4,000 – 1,700 BC) and the Bronze Age (ca. 1,700 – 500 BC) are strikingly similar to Upper Paleolithic flutes in terms of typology, material of construction, placement of holes, and engravings. Scandinavian hunters have employed animal calls similar to these artifacts well into the twentieth century, imitating the calls of otter, seal, and sea birds.[469] These contemporary hunting practices are of interest not only because they provide ethnographic support for the function of multiple Upper Paleolithic artifacts, but also because they may be vestiges of traditions with their origins in the Upper Paleolithic period, and perhaps even earlier.[470]

[469] Cajsa S. Lund, "On animal calls in ancient Scandinavia: theory and data," in *The Archaeology of Early Music Cultures*, eds. Ellen Hickmann and David W. Hughes, Third International Meeting of the ICTM Study Group on Music Archaeology (Bonn, Verlag für systematische Musikwissenschaft GmbH, 1988), 292.
[470] Ibid., 292.

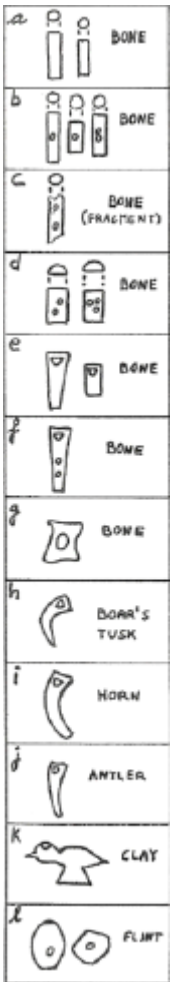

Figure 7-3. Animal calls in use in Scandinavia during the Neolithic and Bronze Age.

Scandinavian artifacts, which Cajsa S. Lund suggests were animal calls, include bird-bone tubes without holes (fig. 7-3, a),[471] bird-bone tubes with one to three holes (fig. 7-3, b-d), bird-bone tubes of various lengths with a single semi-elliptical hole near one end (fig. 7-3, e), bird-bone tubes with two holes in addition to a semi-elliptical hole near one end (fig. 7-3, f), and roughly square-shaped bones of another animal pierced with a single hole (fig.

[471] Ibid., 296.

7-3, g). All of these correspond to artifacts dating to the Upper (and even Middle) Paleolithic periods. As we have seen, bird bone tubes without holes are ubiquitous in the archeological record of the period. Notably, bone tubes without holes are also the most numerous of the Scandinavian animal calls.[472] Certain artifacts, such as a Magdalenian flute from the site of Isturitz (Musée d'Archéologie Nationale, catalogue number Isturitz 83 886 Ist. II 1937 S.P.) (fig. 7-5), resemble the Scandinavian artifacts with a semi-elliptical opening (fig. 7-3, e). Pierced phalanges, typically reindeer phalanges, dating to both the Middle and Upper Paleolithic periods resemble the roughly square-shaped Scandinavian artifacts (fig. 7-3, g).

Figure 7-4. Phalangeal whistle, reindeer phalange, Magdalenian, Laugerie-Basse, Dordogne, Musée d'Archéologie Nationale, catalogue number LB 54045.

[472] A survey of bone tubes – which are bird bones in most Upper Paleolithic specimens – with holes was presented in Chapter 3.

In addition to those mentioned above, Scandinavian artifacts that functioned as animal calls (for which there are not clear Upper Paleolithic correspondences) are made of boar's tusk with a single hole (fig. 7-3, h), antler pierced with a single hole (fig. 7-3, j), horn with one hole (fig. 7-3, i), flint pierced with a single hole (fig. 7-3, l), and a clay effigy of a bird pierced with one hole (fig. 7-3, k).

A Neolithic Scandinavian artifact from Västergötland, Sweden (fig. 7-7)[473] closely resembles Upper Paleolithic artifacts that have been classified as flutes. The artifact pertains to the very late Stone Age (ca. 2300 – 1800 BC).[474] It is made from bird bone, as are most Upper Paleolithic flutes, and is pierced with two holes. A replica of this artifact can be played as an end-blown flute or as a blockless duct flute.[475] The lower end of the flute is kept uncovered. The artifact is marked with engravings strikingly similar to those on the surfaces of numerous Upper Paleolithic flutes. The engravings are geometrical markings – parallel linear notches and an 'X'-shape. These do not appear to be decorative markings, but either symbolic or functional (e.g., tallies) markings.

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[473] Cajsa S. Lund, *The Sounds of Prehistoric Scandinavia, Swedish Music Anthology*, booklet published with album (Stockholm: Musica Sveciae, 1991), 15.
[474] Ibid., 15.
[475] Ibid., 15.

Figure 7-5. Detail, Magdalenian flute, Isturitz, Pyrénées-Atlantiques, Musée d'Archéologie Nationale, catalogue number Isturitz 83 886 Ist. II 1937 S.P.

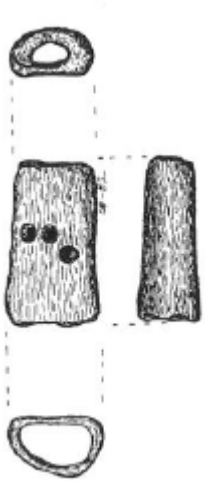

Figure 7-6. Bone artifact (sheep or goat radius) from Östergötland, Sweden, early Bronze Age (length 3.3 cm).

The three holes in a bone artifact from Östergötland (fig. 7-6)[476] are not positioned linearly, with significant implications for the interpretation of Upper Paleolithic artifacts. Certain Upper Paleolithic artifacts have previously been rejected as flutes because the holes in the artifacts have not been arranged linearly. The engravings on this artifact are evidence that the artifact is man-made and the holes were positioned in this manner deliberately. The nonlinear placement of holes in Upper Paleolithic artifacts should not preclude the possibility that the artifacts were sound-producers; it may be that these artifacts were sound-producers, albeit possibly bird or animal calls rather than flutes.

Scandinavian hunters have provided further ethnographic evidence that Upper Paleolithic artifacts similar to the Scandinavian ones functioned as animal calls. The hunters have traditionally crafted "otter pipes" that are used to hunt otters. The manufacture of otter pipes is described by a Norwegian hunter:

> We prefer to be two persons when making otter pipes. One of us starts to cut the hole on the tube of bird bone, at its center; now and then he blows the pipe. The other person listens at a distance (ca. 20-30 m) for the correct tone. We have to make three pipes, of bones from different birds. The pitch must be the same for the three pipes but the tone color may vary: the eider's bone gives the darkest sound and imitates the male otter; the mallard's bone imitates the female otter; and the long-tailed duck's bone imitates the young otter. It is difficult

[476] Lund, "On animal calls," 298.

> to make perfect otter pipes; we take good care of really good ones.[477]

Otter pipes are blockless duct flutes, in which the airstream is directed toward the sound-window by means of the shape of the tube, which is usually gently curved. Unevenness of the interior surface of the tube may also contribute to directing the airstream to the sound-window. There are no blocks, and therefore, no artificial ducts.[478] This method of sound production suggests a similar one may have been used in the case of Upper Paleolithic artifacts with a similar typology (i.e., bird bone tubes with single, central holes).

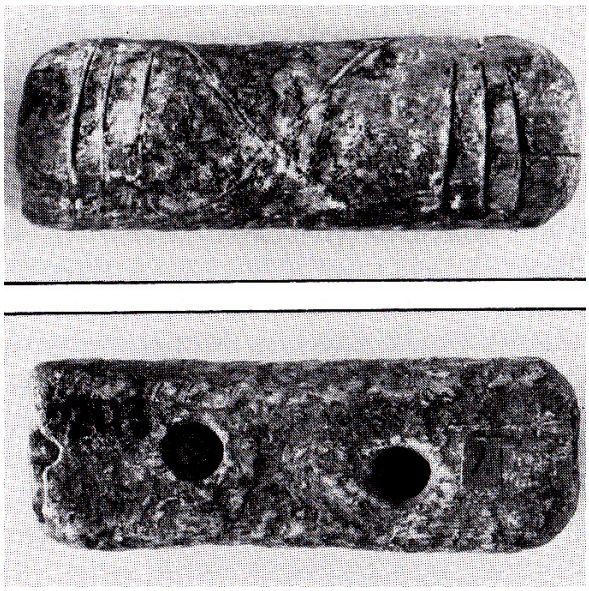

Figure 7-7. Bone tube (length 4.2cm, width 1.5cm), Stone Age (ca. 2300-1800 B.C.), excavated at Luttra, Västergötland, Sweden.

[477] Hunter interviewed by Reidar Sevåg, *Det Gjallar Og Det Lœt* (Oslo: Det Norske Samlaget, 1973), 78, as quoted in English translation by Lund, "On animal calls," 299.
[478] Lund, "On animal calls," 300.

Lund interviewed a hunter familiar with traditional bird and animal calls at Gryt Skärgård in Sweden. She recounts that he was able to produce whistling sounds on the Scandinavian artifacts she was studying, which include two bone artifacts – one from Västergötland (fig. 7-7) and the other from Östergötland (see fig. 7-6). In the hunter's estimation, the artifacts could have been used to call red foxes, certain sea birds (e.g., black guillemot), and probably otter.[479] The hunter stressed that in addition to whistling sounds, hissing sounds could be achieved with the artifacts, such sounds being important in attracting black grouse, capercaillie, and jay.[480] He also emphasized the importance of the holes pierced in the artifacts, but pointed out that the precise positions of the holes was of no importance. In relation to Upper Paleolithic artifacts, the nonlinear placement of holes has often been attributed to carnivore bites or damage due to other natural processes. The nonlinear positioning of holes has thus been used as evidence that the object was not utilized as a sound-producer. This ethnographic evidence establishes the possibility that bones pierced with nonlinear holes can have served, like those with linear holes, as sound-producers that were perhaps used in hunting.

Another Scandinavian bone tube that was used as an animal call was excavated at Köpinge in Skåne, Sweden (fig. 7-8).[481] The bone tube is pierced with a single hole and decorated with incisions similar to those

[479] Ibid., 301.
[480] Ibid., 302.
[481] Lund, *Sounds of Prehistoric Scandinavia*, 18.

engraved on numerous Upper Paleolithic artifacts. It is typologically similar to Upper Paleolithic bird-bone tubes pierced with single holes in addition to pierced reindeer phalanges from the Middle and Upper Paleolithic periods. Such typological similarity suggests that the Paleolithic tubes and phalanges may have been used as bird or animal calls.

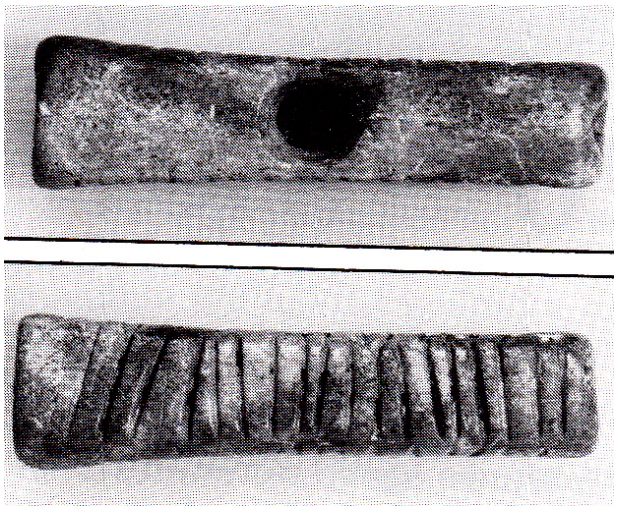

Figure 7-8. Bone tube (length 4cm, maximum width 1.1cm) used as an animal call, late Bronze Age, excavated at Köpinge, Skåne, Sweden.

Models of the same three artifacts Lund presented to the hunter produced a variety of whistling sounds, all of which were high-pitched, that would have been useful in luring birds and animals. They could be played as blockless duct flutes by blowing into the larger opening and keeping the smaller, distal opening unblocked. The models could be played in this manner either covering one of the holes with a finger or keeping all of them open. Alternatively, the reproductions could be played as end-blown flutes, in which the airstream is directed across the opening, as in bottle-blowing. Using this

method, the holes and the distal end of the flute may be covered or not. The experimental playing of these reproductions suggests that Upper Paleolithic artifacts were also played as blockless duct flutes or end-blown flutes.

A number of theories regarding the function of bird-bone tubes have been proposed. It is possible that these tubes were flutes without finger-holes, as supported by ethnographic evidence. Much of the debate regarding the identification of artifacts as flutes has centered upon the existence or absence of finger-holes as proof that the holes were man-made. There is ethnographic evidence, however, of flutes without finger-holes. The tilinca of Romania is an example of a flute without any finger-holes. The tilinca is fabricated from either metal or wood and typically measures 60 cm to 80 cm in length. The instrument is an end-blown flute, open at each end. The player holds the instrument obliquely and can produce approximately twenty harmonics by closing the distal end to varying degrees. Despite the simplicity of the instrument's construction, it is capable of playing a variety of music at a variety of tempos. It is played exclusively in northern Transylvania and Bucovina. The absence of finger-holes, therefore, does not prove that an artifact is not a flute. On the contrary, the tilinca is evidence that a flute without finger-holes is capable of a wide range of musical possibilities.

In summary, ethnographic comparison, while it may not allow us to determine definitively how Upper Paleolithic flutes were utilized, is an invaluable resource. Ethnography unveils the common usages of the flute in

many parts of the world and elucidates the symbolic meanings attached to the instrument. The commonality of these usages and meanings and their broad pattern of distribution throughout the world suggest that they have ancient origins. The prevalent functions and significance of the flute in contemporary and historical societies may very well point to the origin of these functions and meanings during the Upper Paleolithic period. While flutes may have been pragmatic sound-producers used in the hunt, ethnographic comparison makes it clear that the flute functions symbolically as well as pragmatically (i.e., to attract birds or animals). It is closely tied to procreation, rebirth, and fertility. It is closely associated with birds, and thus, celestial and spiritual realms. As such, it frequently functions to establish connection with or rebirth in the spirit world. Moreover, as the flute is associated with blood, ochre, and the color red, it is a symbol of life itself.

Chapter 8: The Flute in Myth

An investigation of the flute as it appears in mythology from various parts of the world and across time confirms symbolic associations and functions of the instrument that have also been suggested by ethnographic comparison. As most Upper Paleolithic flutes were fabricated from bird bones, a foray into the significance of birds in various traditions is also valuable in our attempt to understand the cultural meanings and functions of these instruments. The analysis of various divinities associated either with birds or the flute and myths in which the flute is of central importance suggests that the flute is intrinsically linked to the themes of procreation, fecundity, and transformation. Perhaps, more importantly, throughout the world and much of time, the flute is connected with the ability of humanity to unite with nature and to achieve a transcendental state via this union. Even in the contemporary world, the same cultural meanings extended to the flute are preserved in fairy tales.

An examination of the relationship between divinities and birds is relevant for the present study because the majority of Upper Paleolithic flutes were fabricated from the bones of birds. Ethnographic and other evidence suggests that bird bones held symbolic significance. The relationship between birds and the celestial or spirit realms appears to have existed as far back as the Upper Paleolithic. In later eras, the relationship between birds and these realms persisted. Birds came to be associated with particular divinities.

Divinities in ancient Egypt and Greece, Sumeria, India, and Europe were associated with birds. The existence of this relationship in so many cultures in different parts of the world attests to the chronological tenacity of the symbolism. The relationship between divinity and birds seems to be a primordial one. Music played on the wing bones of birds – themselves divine or semi-divine beings as liminal beings with access to the celestial world – would have been a means of transcendence or communication with the divine in the Upper Paleolithic era.

A number of the divinities associated with birds are not only gods and goddesses of love and procreation, but of death and warfare. This attests to the bird as a symbol of transformation. It is connected not only with the creation of human life, but with the end of life. Birds are thus symbols of transformation throughout the complete cycle of life. By extension, bird-bone flutes in the Upper Paleolithic were almost certainly connected not only with sexuality and the creation of life, but with death and the passage of the soul into the unseen spirit world.

Birds were closely associated with goddesses in the Neolithic period and the Bronze Age. In the Neolithic era, the bird-goddess was viewed as the bringer of life-giving rains. This aspect of the bird-goddess evolved into beliefs that birds were able to predict and control the weather, which in turn

led to the phenomenon of augury by observation of birds.[482] In the Bronze Age, artists portrayed ducks as ships and represented birds pulling vehicles that bore goddesses. Birds were considered guides in the spirit world, the realm of the gods or goddesses.[483]

Female divinities have been more commonly associated with birds than have male divinities. The goddesses Inanna, Freya, Athena, Aphrodite, Artemis, Saraswati, Lakshmi, Morrigan, Isis, Nephthys, Nekhbet, and Rhiannon have all been associated with birds in some manner. There are a few male divinities that have been associated with birds, including Re, Horus, Hraesvelfr, and Odin. For the most part, however, birds are connected with female divinities. These goddesses may be capable of transforming themselves into bird form, or they may be commonly accompanied by birds.

Inanna (fig. 8-1)[484] was the Babylonian Queen of Heaven from approximately the third millennium BC. She was a complex deity, ruler of sexual love, fertility, and war. Although her principal bird companions included the dove and the swallow, she was most closely associated with the owl. She was often depicted with the death-inflicting talons of an owl, which indicated her connection to the underworld, death, and resurrection. In her owl form, she was called Nin-ninna, which meant Divine Owl Lady.[485]

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[482] Lesley Morrison, *The Healing Wisdom of Birds: an Everyday Guide to their Spiritual Songs and Symbolism* (Woodbury, Minnesota, Llewellyn Publications, 2011), 10-11.
[483] Ibid., 11.
[484] Photo by Marie-Lan Nguyen.
[485] Morrison, *Healing Wisdom of Birds,* 12-13.

Figure 8-1. Innana (also Inana/Ishtar), Ishtar Vase, ancient Mesopotamia, terracotta with cut, moulded, and painted decoration, from Larsa, early 2nd millennium BC, Musée du Louvre.

The ancient Egyptian goddesses Isis, Nephthys, and Nekhbet were associated with birds. Isis (fig. 8-2) was the goddess of magic and renewal, and she was depicted as a great winged bird, commonly a falcon. She was also depicted as a kite, as was her sister Nephthys. Isis also assumed the form of a vulture, especially in conjunction with the resurrection of her husband

due to the symbolic association of the vulture with death and renewal.[486] Nekhbet (fig. 8-3)[487] was another vulture goddess. She was depicted as a white vulture with outstretched wings, protecting the Pharaoh, or as a human female wearing vulture skin on her head.[488] In the form of a white vulture, Nekhbet symbolized purity.

Figure 8-2. Isis, wall-painting, tomb of Seti I, Valley of the Kings, ca. 1380 - 1335 BC.

[486] Ibid., 18.
[487] Photo by Hajor, Dec. 2001.
[488] Morrison, *Healing Wisdom of Birds,* 19.

Figure 8-3. Nekhbet, Temple of Kom Ombo, Egypt, ca. 180 – 47 BC.

In Norse mythology, Freya, or Frejya, is the goddess of love, gold, witchcraft or sorcery, beauty, fertility, war, and death. She possessed a magical cloak of falcon feathers that enabled her to transform herself into any species of bird, recalling the process in which shamans are transformed into bird form in the adornment of bird regalia. Her cloak was called "Valshamr," which means "hawk's plumage," "falcon-skin," or "falcon-feathered cloak." She was known as a great seer, possessing prophetic vision.[489] She ruled over the heavenly afterlife in the field of Fólkvangr, where she received half of the soldiers who died in battle. The others were received by the god Odin in his hall, Valhalla.

[489] Ibid., 13-14.

The ancient Greek goddesses Athena, Aphrodite, and Artemis were bird goddesses. In Homer's *Odyssey*, the goddess Athena (fig. 8-4)[490] brings messages to the human world in the guise of a bird, as she disappears in a rush of wings or appears in the form of a bird of prey.[491] She was the goddess of wisdom, war, and skilled crafts. As the goddess of wisdom, Athena was most closely associated with the wisest of birds. She was called the owl-eyed or owl-faced. Athena took the form of a bird as she came to aid soldiers in battle. She is shown on a Corinthian vase dating to the sixth century BC in her chariot, accompanied by a woman-headed bird perched on a horse.[492]

[490] Photo by Marie-Lan Nguyen, 2011.
[491] In the *Odyssey*, Athena is frequently referred to as "the grey-eyed goddess." This epithet may have originated in a reference to the gleaming eyes of the owl.
[492] Morrison, *Healing Wisdom of Birds*, 14.

Figure 8-4. Athena with an owl, Attic red-figure lekythos, ca. 490 – 480 BC.

Aphrodite (fig. 8-5)[493] was the Greek goddess of love, pleasure, beauty, and procreation, as was her later Roman manifestation, Venus. She had several bird epiphanies. She was often depicted riding through the skies

[493] Photo by Marie-Lan Nguyen, 2007.

upon swans or geese. Perhaps her principal bird form was the white dove, although throughout the Bronze Age the swan was used to represent the goddess in bird form. The whiteness of the birds associated with Aphrodite alludes to her purity and dignity.[494]

Figure 8-5. Aphrodite on a swan, tondo from an Attic white-ground red-figured kylix, ca. 460 BC.

[494] Morrison, *Healing Wisdom of Birds*, 14-15.

The Greek goddess Artemis (fig. 8-6)[495] was the goddess of the hunt, and she reigned over the wilderness and all wild creatures. She is most commonly depicted as a deer, although she was also a bird goddess, often depicted with the buzzard and guinea fowl. She is also associated with the solar hawk. Artemis is closely associated with the bird and stick motif, also prominent in a number of shamanistic traditions. As previously discussed, the bird and stick (i.e., the bird-topped pole) also appears in the Upper Paleolithic cave painting called the Shaft Scene at Lascaux. The bird and stick have been interpreted as a symbol of the tree of the goddess.[496] Perhaps, the bird-man therianthrope of Lascaux is a representation of an earlier deity who was associated with the bird and stick motif. It may be that Artemis is a later incarnation of this Upper Paleolithic deity. In the Shaft Scene, the bird-man is accompanied by animals, a rhinoceros to his left and a bison to his right. The bison has been fatally injured, and it seems appropriate that a prototype of the hunting and protector goddess of ancient Greece would be depicted with the dying animal.

[495] Photo by Aaron Atsma, copyright Theoi Project, 2000-2011.
[496] Morrison, *Healing Wisdom of Birds*, 15.

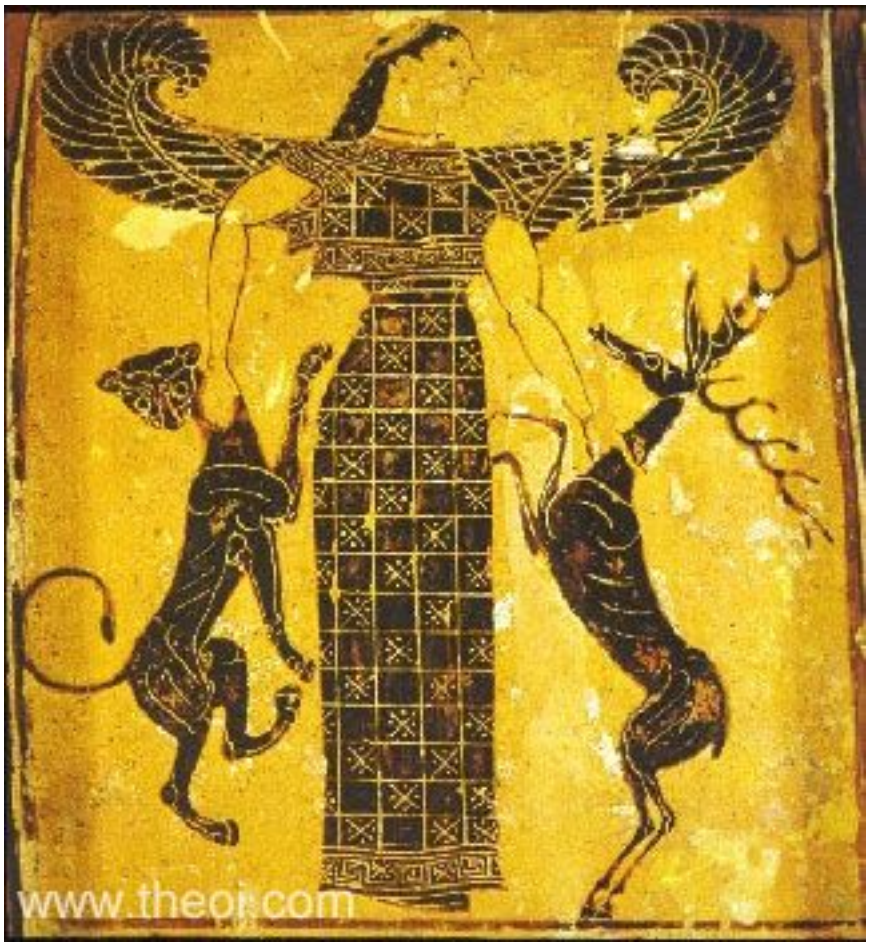

Figure 8-6. Artemis, François Vase, Attic volute krater, ca. 570 BC, Florence Archaeological Museum.

The Hindu goddesses Saraswati and Lakshmi are both associated with birds. Saraswati is the Hindu goddess of wisdom. She is depicted at times with the peacock and at others with the swan. She is sometimes shown with both birds. When Saraswati is depicted with both birds, the swan is symbolic of transcendental or spiritual knowledge, while the peacock is a symbol of

mundane knowledge.[497] Lakshmi is an owl goddess associated with fortune and prosperity in the *Ramayana*. She ensures agricultural prosperity by feeding upon crop-destroying rodents.[498]

Morrigan was the battle goddess of the Tuatha Dé Danaan, a mythical race of people in Ireland thought to be the descendents of the pre-Christian deities. She presided over war and death, and was closely associated with the raven and crow. The goddess gave warnings of impending battles, supported her favored side, and in the form of a crow or raven, fed upon the bodies of those slain in battle.[499] Another Celtic goddess connected with birds was Rhiannon, meaning "Great Queen." She was a Welsh goddess often depicted with three songbirds, usually blackbirds, that could lull weary heroes to sleep with their song and revive the dead. The blackbirds were considered doorkeepers to the netherworld, and their song was a bridge between the human and spirit realms.[500] The birds associated with these Celtic goddesses exemplify their transformative power, namely the power to transform the dead. These birds are also able to connect the human and spiritual worlds, significantly by means of their song. The power of bird song to traverse the human and spiritual dominions in Celtic mythology has significant implications regarding Upper Paleolithic flutes. If bird song was imbued with

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[497] Ibid., 16.
[498] Ibid., 16-17.
[499] Ibid., 17.
[500] Ibid., 19.

the same power during the Upper Paleolithic, bird-bone flutes may have been a principal means by which bird song was produced in order to penetrate the spiritual realm.

Although birds have been associated less frequently with gods than with goddesses, they have been connected with Egyptian as well as Norse gods. In ancient Egypt, the solar deity Ra was represented with the body of a man but the head of a hawk, with a sun-disc headdress. Horus was the most important avian deity in ancient Egypt, and the falcon was his symbol. The falcon represented the god's great cosmic power.[501] The Norse gods Hraesvelgr and Odin were also avian deities. Hraesvelgr was a winter god who dressed in eagle feathers. He ate corpses and directed the cold winds of Vasud to cause mortals discomfort. Odin was the Norse god of wisdom, war, prophecy, magic, the hunt, victory, shape-shifting, and poetry. His bird companions were Huginn (thought) and Muninn (memory). The two ravens traveled the world every night and gave Odin news of the affairs of men.[502]

Pan is one of the gods in the Greek pantheon. He is significant with respect to the present study because he plays the syrinx, or panpipes. The myth involving Pan and the creation of the syrinx exemplifies the symbolic significance of the flute in general. This extends to the symbolic significance, or cultural meaning, of Upper Paleolithic flutes. As indicated by other sources

[501] Ibid., 19-20.
[502] Ibid., 20.

of evidence, including art, ethnography, and archeological contexts, Upper Paleolithic flutes appear to have been strongly associated with sexuality, procreation, and transformation. These themes appear in the myth of Pan, who is also associated with the flute.

Pan is the god of the wilds, hunting, shepherds and flocks, and rustic music. He has the legs, hindquarters, and horns of a goat, and the torso of a man. The animal elements of Pan's body indicate his connection to nature. As the god of fields, groves, and woods, he is associated with the spring and with fertility. Because Pan was associated with fecundity, shepherds who wished to increase the size of their flocks worshipped him.[503] As he is the companion of the nymphs, Pan is again connected with fertility. As in numerous ethnographic examples, the flute is associated with fertility. It is notable, however, that in the case of Pan the flute is associated with the goat rather than birds, which are much more frequently found. To the early Greeks, Pan ruled over all of nature, including humans.

The connection between the panpipes and fertility becomes more explicit in the myth of the creation of the first syrinx.

> Pan … was tending his flocks in Arcadia one day when he spied a beautiful nymph and fell in love with her. The nymph, Syrinx, turned and saw the abominably ugly Pan and, without heeding his loud admissions of love, turned and fled in terror, with Pan in pursuit. Coming to the bank of the Ladon river, Syrinx called upon her sister nymphs to save her. Casting

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[503] David J. Dunworth and Amy T. Peterson, *Mythology in our Midst: A Guide to Cultural References* (Westport, CT: Greenwood Publishing Group, 2004), 138.

> herself into the river in despair, Syrinx was transformed into a bed of marsh reeds. Upon coming to the riverbank and finding no nymph, Pan sat next to the river and wept his sorrow. In the midst of his grief, Pan noticed the bed of reeds that had been Syrinx's body was delicately swaying in the wind, making a mournful moaning sound, for the wind had broken the tops of some of the reeds. Pulling the reeds up, Pan cut them into pieces and bound them together to create a musical instrument, which he named "Syrinx," in memory of his lost love.[504]

From that time, Pan was seldom seen without the syrinx. His blowing into the syrinx may be interpreted as a symbolic substitution for intercourse, his air penetrating the reed pipe into which Syrinx had been transformed. The air substitutes for semen, and the opening of the reed tube may be seen as the vaginal opening. Pan, as befits the god of nature, was not only a bestial god, but a lusty one.[505] Pan was a very sexual god, notorious for seducing and raping the nymphs.[506] He was the god not only of nature, but of sex.[507] Pan's goat aspect personifies nature "as something hairy, phallic, roaming and goatish."[508] He is sometimes depicted with a flute rather than a panpipe (fig. 8-7).[509] The phallic shape of the flute furthers the god's association with sex. In the myth of Pan and Syrinx, the flute is associated not only with sex, but with birds, as are Upper Paleolithic flutes. The syrinx is the principal voice organ of birds. The nymph Syrinx is given the name because the sound of the wind blowing across the reeds resembles bird song.

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[504] Douglas Bishop, "The Panflute in Folklore and Literature," accessed June 11, 2012, http://www.panflutejedi.com/legendpage.html.
[505] Dunworth and Peterson, *Mythology in our Midst*, 138.
[506] Michael Vannoy Adams, *The Mythological Unconscious* (London: H. Karnak Books Limited, 2001), 88.
[507] Ibid., 89.
[508] Wilhelm Heinrich Roscher and James Hillman, *Pan and the Nightmare: Two Essays*, trans. A. V. O'Brien (Putnam, CT: Spring Publications, 1972), xx.
[509] Photo by Aaron Atsma, copyright Theoi Project, 2000-2011.

Figure 8-7. Pan with flute, Roman copy (ca. 2nd century AD) of a Greek statue by Heliodorus of Rhodes, ca. 2nd century BC, Musée du Louvre.

Pan was well-known for his skill as a musician. There is myth of a musical duel between Pan and the sun-god Apollo. Pan challenged Apollo to the duel, and the mountain Tmolus was asked to judge the contest between the two gods. Tmolus declared Apollo the winner, but Midas alone opposed Tmolus's decision. As a consequence, Apollo changed Midas's ears into those of an ass.

This myth reveals an important meaning or function of the flute, which has been suggested by much ethnographic evidence. Pan's music is described as rustic and his melody as rude. Apollo, on the other hand, is described as a musician who plays like a true artist. Pan's music symbolizes humanity's union with nature, while Apollo's symbolizes power over nature. Midas alone proclaims Pan the winner of the contest, and it is he who is given the ears of an ass. He becomes part animal himself. The transformation of his ears into animal form symbolizes his union with nature. It is highly significant that Pan plays the panpipes, a form of the flute. The flute, again and again, is the instrument that symbolizes the union between humans and nature. However, the flute is not only symbolic of this union. The flute functions as a means of establishing unity. It is an indispensable tool required by humans in order to achieve union with nature.

Pan represents union on multiple levels. As he is part man and part goat, he personifies union between humans and nature. As he is a god, the human dimension and animal dimension (which is itself representative of nature as a whole) are combined with the divine dimension.[510] Pan may be seen as the personification of the divine or transcendent state that is achieved through humans' union with nature. His association with the syrinx suggests that this instrument and, more generally, the flute are connected with unity

[510] Adams, *The Mythological Unconscious*, 88.

between the human and natural realms and with unity between the physical world and the divine.

Pan calls to mind the Upper Paleolithic representations of bison-men and other male therianthropes, such as the Sorcerer at the site of Les Trois Frères. Perhaps these figures were gods with characteristics similar to those of Pan. These Upper Paleolithic therianthropic figures are often depicted in the ithyphallic state. The bison-man with the "musical bow" engraved at Les Trois Frères, discussed previously, is depicted with an erect phallus, while the Sorcerer depicted at the same site, is shown with a prominent, though not erect, phallus. These figures, like Pan, are associated with male sexuality. Like Pan, these Upper Paleolithic therianthropes may have been gods of nature. If nature was considered sacred during the Upper Paleolithic era and animals were viewed as concrete, living manifestations of the divine in nature – a probability suggested by the focus on animal life in Upper Paleolithic art – then these human-animal composites would be sacred figures, representative of the human union with nature. The bison-man at Les Trois Frères is depicted playing a musical bow or flute. If the bison-man is playing a flute rather than a musical bow, this further supports the evidence from Upper Paleolithic art and ethnographic comparison that the flute was associated with male sexuality in Upper Paleolithic culture.

The Greek word *pan* means *all*. Thus, to worship Pan is to worship all of nature, the entire cosmos. [511] The predominance of animals in Upper Paleolithic parietal art suggests that a form of pantheism may have existed. In the larger panel from Les Trois Frères that includes the bison-man playing either a musical bow or a flute, the animals swirl about him in great numbers. This image evokes Pan and his association with the animal realm. As Pan is the god of nature, everything in the natural realm becomes imbued with the divine.

> When Pan is alive then nature is too, and it is filled with Gods, so that the owl's hoot *is* Athene and the mollusk on the shore *is* Aphrodite. These bits of nature are not merely attributes or belongings. They are the Gods in their biological forms. And where better to find the Gods than in the things, places and animals that they inhabit, and how better to participate in them than through their concrete natural presentations.[512]

The appearance of the gods in animal forms in this worldview is strongly reminiscent of the proliferation of animal representations, in both parietal and mobiliary forms, in the Upper Paleolithic. The view that these animals were living manifestations of the divine in the seen world would explain the almost exclusive focus on animal life in Upper Paleolithic art. Perhaps all of nature was considered sacred in an Upper Paleolithic form of pantheism, and the animals depicted in the art were viewed as concrete theistic forms.

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[511] Ibid., 89.
[512] Roscher and Hillman, *Pan and the Nightmare*, xxiii.

The flute, birds, and fertility are connected not only in the mythology of the ancient world, but also in various mythologies of contemporary cultures. The Sentani people of northern Papua New Guinea have a myth about the creation of the first flute. In this myth, the flute becomes the provenance of men, as it is in many other cultures throughout the world. Sachs relates the myth as it was presented to him by the Sentani.

> One day a man went to the bush with his wife to gather fruit. The man climbed up a high tree and threw the fruit down, and the woman put it into her net. Suddenly a big piece of fruit fell onto a dry bamboo tree and cracked it open with a sharp sound. The frightened woman ran away, for she did not know what had made the noise. Out of the slit bamboo appeared a cassowary [the Melanesian counterpart of the phoenix, symbol of rebirth] making a buzzing sound. The man at once built a fence around the bird, ran into the village and told his friends what had happened. 'Now we have a way of frightening the women,' they said. They began to cut pieces of bamboo and tried to draw a sound from them and finally discovered that by blowing across a stalk they could make a sound similar to that of the cassowary. This was the first flute.[513]

It is significant that the flute is associated with a bird in this myth, as flutes were fabricated from bird bones in the Upper Paleolithic period. The cassowary is considered the mother of the Sentani secret flute cult because the sound of the bamboo flute is considered similar to the rumbling/growling of the cassowary, which mythically came forth from a stalk of bamboo.[514] Therefore, the flutes are sometimes decorated with cassowary feathers, and

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[513] Curt Sachs, *The History of Musical Instruments* (New York: W. W. Norton & Company, Inc., 1940), 44-5.
[514] Curt Sachs, *Geist und Werden der Musikinstrumente* (Hilversum: Frits A. M. Knuf, 1965), 21.

the Sentani do not kill or eat cassowaries.[515] The connection between flutes and birds appears to be a ubiquitous one, found in many parts of the world and across large expanses of time.

The flute is also commonly connected with the theme of rebirth. This association is evident in the Sentani myth of the first flute. As the Melanesian parallel of the phoenix, the cassowary symbolizes transformative power. The flute is often linked to the story of the phoenix, symbolic of new life that emerges upon death.[516] Thus, the flute is closely tied to rebirth in this Sentani myth. This same connection is seen in many ethnographic examples, and the commonality of this connection points to the probability that flutes were closely tied to the idea of rebirth in the Upper Paleolithic, as well.

In this myth, the couple is picking breadfruits. Curt Sachs has proposed that the connection between the flute and the harvest is a common one.[517] This is an example of the broader association of the flute with fertility. Rebirth and fertility are related themes in which life generates new life. Perhaps this is the central, unifying power common to the function of the flute in numerous ethnographic examples and myths. Flute-playing may be essentially an expression of the desire to create life. Perhaps, flute-playing is at its core connected with the human desire to create life on two levels - both in the visible, physical world and in the invisible, spiritual realm. Flute-

[515] Ibid., 21.
[516] Ibid., 21.
[517] Ibid., 20.

playing may be the very *means* by which humans achieve this power – the essential, transformative tool (the magic wand, catalyst, magic word, secret ingredient) that endows humans with the power to generate life. Alternatively, flute-playing may serve as an announcement that humans have *achieved* this power.

The connection between the flute, the phoenix, and rebirth is illustrated again in another myth, one from another continent. These central elements are united again in the sun myth of the Yahuna people of northwestern Brazil.[518] As told to Sachs by the Yahuna:

> Many, many years ago, a little boy came from the great water house, the homeland of the sun. He could sing so beautifully that many people from near and far came to see him and hear him sing. The boy was an Indian and called Milomaki. But when all of the people who had heard him sing went home and ate fish, they fell down dead. Then, their relatives seized Milomaki, who had in the meantime grown into a youth. The youth continued to sing strongly and beautifully up until his end. As the flames licked up around his body, he sang, "Now, I die, my son. Now, I leave this world." As his body swelled in the heat, he sang in heavenly tones, "Now, my body breaks. Now, I am dead!" And his body exploded. He died and was consumed by the flames. His soul, however, rose up into the sky. From his ashes grew a long, green leaf on the very same day. It became bigger and bigger, spread itself out, and was already a high tree on the following day. It was the first Paxiuba palm. There were no Paxiuba palms before. The people made large flutes from its wood. On these, they reproduced the wonderful melodies that Milomaki had originally sung. The men have played them up until the present day when the Inga, Pupunha, and Castanha fruits (among others) are ripe, and they dance as they do, to honor Milomaki, who created all fruits. The women and children

[518] Ibid., 21.

> are not permitted, however, to see the flutes. The women would die, and the children would eat earth, become sick, and also die.[519]

It is notable that in this myth the flute is not only associated with the phoenix, in the form of Milomaki, but with death. It is not only Milomaki who dies, but all of the people who have heard him sing. The people who remain alive make and play flutes that imitate the songs of Milomaki. This appears to be a manifestation of their desire to bring about the ascension of the souls of those who had died, just as Milomaki's soul ascended as he died singing in the fire.

We see, too, in this myth, as in that of the Sentani, that the flute is associated with the harvest. It is played when the fruits are ripe, and in honor of Milomaki, on this occasion. The flute appears central in the experience of the human life cycle. Its playing seems to be either a heralding of human power to create life, instigate rebirth, or a sonic agreement to participate in the larger cycles of life and death throughout the cosmos.

The flute plays an important role in the mythologies of a number of North American peoples as well. The flute player is one of the most ubiquitous figures in the rock art of North American peoples of the southwestern United States. Paintings of the flute player are found primarily in Utah, Arizona, New Mexico, and Colorado, although some are located in

[519] Ibid., 21-22.

Texas, Oklahoma, and northern Mexico.[520] There are thousands of paintings of the flute player at hundreds of rock art sites.[521] His image is not only widely distributed over a large area, but has been an enduring image painted repeatedly in the course of a thousand years.[522] The flute player is an image found in kiva murals and ceramics as well as in rock art. Typically portrayed with a prominent phallus, he is associated with abundance and fertility.[523]

The flute player of the American Southwest is often referred to as Kokopelli. However, this is a misnomer. Kokopelli is the name of a Hopi *katsina*, or "respected spirit." Kokopelli is humpbacked and is often depicted with an erect phallus. Because the flute player shares these characteristics, he is often referred to by the same name. However, the Hopi do not equate Kokopelli with the flute player. They refer to the flute player as either *Lahlanhoya*, a symbol of the flute clan, or *Maahu*, "cicada." At the Zuni Pueblo, he is called *Chu'lu'laneh*.[524]

The ithyphallic state of the flute player of the American Southwest highlights his connection with male sexuality. The association of the flute with sexuality is seen in many ethnographic examples and myths. There are rock art paintings of him engaged in sexual intercourse. These include an

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[520] Dennis Slifer, *Kokopelli: The Magic, Mirth, and Mischief of an Ancient Symbol* (Layton, Utah: Gibbs Smith, Publisher, 2007), 3.
[521] Ibid., 4.
[522] Ibid., 3.
[523] Ibid., 3.
[524] Ibid., 3.

Ancestral Pueblo petroglyph from La Cieneguilla, near Santa Fe, New Mexico, and a petroglyph at Cedar Mesa, Utah.[525] The flute player is also associated with pregnancy and birth. In a Fremont petroglyph at Indian Creek, Utah, he plays his flute near a pregnant woman, and there are a number of petroglyphs in which he plays his flute next to women giving birth.[526] There are also examples of petroglyphs in which the flute player stands next to a woman with an empty womb, as if his flute music has the power to fill her womb with a fetus. These include petroglyphs at Quemado, New Mexico, and Sand Island, Utah.[527]

The flute player is also connected with blood, especially menstrual blood. This recalls Curt Sachs' proposition that the flute is part of the complex of symbols that includes blood, the color red, harvesting, fertility, procreation, and rebirth.[528] In an Ancestral Pueblo petroglyph in northwestern New Mexico, red iron oxide concretions have formed blood-like stains. These have been used by the artists to depict menstrual blood. There are eight or more circular cavities colored with the red iron oxide to represent vulvas and menstrual blood. These bear evidence of having been struck, perhaps ritually in an effort to stop the flow of the menstrual blood, which is necessary for conception. An ithyphallic male is depicted as he penetrates one of these

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[525] Ibid., plate 3, 88.
[526] Ibid., 88.
[527] Ibid., 89.
[528] Sachs, *Geist und Werden*, 20.

symbolic vulvas.[529] Other symbols related to fertility include figures engaged in sexual intercourse, scenes of women giving birth, flute players, and sprouting seeds. These symbols are related not only in the American Southwest, but in many parts of the world. The persistent coherence of these symbols throughout time and across vast distances suggests that these have a common and ancient origin. These symbols appear together repeatedly, and it is most likely that the first flutes functioned as visual and auditory symbols within the same complex.

The flute player of the American Southwest is not only associated with human fertility, but is also connected to the abundance of animal and plant life. There are rock paintings in which the flute player is shown with hunters, such as at La Cieneguilla.[530] He sometimes appears near pregnant animals, such as in a petroglyph scene from the Jemez Mountains of New Mexico.[531] The connection between animal, as well as human, fertility is made explicit in early Ancestral Pueblo petroglyphs from the Sante Fe River in New Mexico. In these, a humpbacked, ithyphallic flute player is depicted along with a pair of copulating animals and a human female with prominently depicted genitalia.[532] The flute player is associated with the germination of seeds and the growth of both wild plants and crops. In Basketmaker petroglyphs at the

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[529] Slifer, *Kokopelli*, 90.
[530] Ibid., 92.
[531] Ibid., 93.
[532] Ibid., 93.

San Juan River near Bluff, Utah, multiple flute players surround plants that appear to be yuccas with flowers or seedpods.[533] In petroglyphs from Canyon de Chelly, Arizona, he is shown with designs that represent sprouting seeds, and in a Tewa petroglyph from the Galisteo Basin, New Mexico, he appears next to a corn plant.[534] In Basketmaker petroglyphs at Johns Canyon, Utah, the flute player is surrounded by both animals and plants (fig. 8-8).[535] The association of the flute with the fecundity of animal and plant life, in addition to human fertility, may have extended to flutes in the Upper Paleolithic era as well. The ubiquity of these associations throughout the world suggests that these connections have ancient, perhaps Upper Paleolithic, origins.

[533] Ibid., 95.
[534] Ibid., 96-97.
[535] Ibid., 11.

Figure 8-8. Basketmaker petroglyphs, Johns Canyon, Utah.

As in ethnographic examples from around the world, flutes in the cultures of the southwestern United States are frequently associated with birds, as were Upper Paleolithic flutes. Birds are almost universally associated with shamanism in the American Southwest.[536] With respect to shamanic ritual, birds usually represent the shaman's spirit guides or his mystical flight, in which his soul leaves his body in the form of a bird. In the rock art of the Southwest, images of birds, in addition to snakes, most

[536] Ibid., 112.

frequently accompany depictions of flute players.[537] Birds were connected not only with shamanism, but also with rain.[538] The ability of birds to fly explains their association with rain and thus the fertility of plants and the harvest. Flute music was thus imbued with the power to bring rain. Throughout the Southwest, most flutes constructed from bone are made from bird bones. The wing bones of eagles, hawks, and turkeys are commonly used.[539] Flute players are depicted with birds at a number of rock art sites, including sites at Five Mile Draw (Arizona), Pilar (New Mexico), Rio Arriba County (New Mexico), Galisteo Basin (New Mexico), and a site south of Black Mesa (Arizona) (figs. 8-9 and 8-10).[540] As the vast majority of Upper Paleolithic flutes are fabricated from the wing bones of large birds, including vultures and swans, it is probable that the association between birds and flutes in the Upper Paleolithic extended beyond the practical to include symbolic associations similar to those in the cultures of the American Southwest. The bird-headed man in the Shaft Scene at Lascaux (see fig. 6-24) suggests that birds were associated with shamanic practices in Upper Paleolithic Europe, as they have been in the Southwest. It is likely that birds were also symbolically associated with rain, and thus fecundity, as they are in indigenous cultures of the southwestern United States.

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[537] Ibid., 113.
[538] Ibid., 113.
[539] Ibid., 113.
[540] Ibid., 114-15.

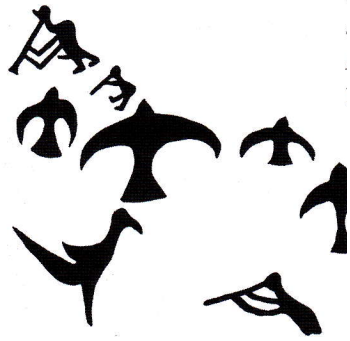

Figure 8-9. Petroglyph, flute players with birds, Galisteo Basin, New Mexico.

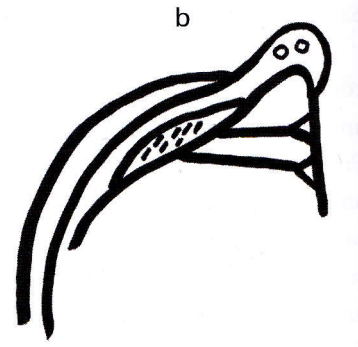

Figure 8-10. Petroglyph, bird playing flute, Pilar, New Mexico.

Perhaps, the most important connection between the flute of the American Southwest and Upper Paleolithic flutes is the apparent association of the flute with transformation in both cultures. In the rock art of the American Southwest, the flute player is sometimes depicted in the shape of various animals. These animal representations suggest that the flute was used in conjunction with shamanic rituals in which the shaman was transformed into the form of an animal, or an animal spirit served to guide the shaman in the trance state. Examples include petroglyphs from Sand Island (Utah), Red Gap (New Mexico), and Rio Arriba County (New Mexico).[541] Therianthropic

[541] Ibid., 101.

figures, including some playing flutes, are also found in rock art of the Southwest. Interestingly, these include bird-headed therianthropes of the Archaic and early Ancestral Pueblo cultures reminiscent of the bird-headed therianthrope of Lascaux. There are even examples in Southwestern art of bird-headed figures playing flutes.[542] There are also examples of rock art in which the flute player appears along with strangely distorted or stretched figures (fig. 8-11).[543] These may represent shamans in the state of transformation. In these examples, we have further evidence of the flute's association with transformation. Indeed, in both the American Southwest and Upper Paleolithic Europe, the flute appears to be the instrument of transformation – the implement that catalyzes the transformative process.

Figure 8-11. Petroglyph, flute players with distorted figures, Zuni area, New Mexico.

Even in the fairy tale the flute has retained associations that are seen in connection with the instrument in various world mythologies. The flute is featured in a German folktale called *The Hare Herd*. In this tale, two brothers venture to the castle where they hope to cure the princess, who is ill, with their mother's medicine and win her in marriage as a result. Both encounter an old

[542] Ibid., 101.
[543] Ibid., 101-02.

man in the forest at the beginning of their journeys, and both treat him poorly. As a consequence, their mother's medicine turns to pig dirt upon their arrival at the castle. The third brother then sets out on the same journey, hoping to cure the princess and marry her. He, too, meets the old man in the forest. This brother treats the old man kindly, sharing his lunch with him. The old man blesses the medicine and presents the young man with a flute, telling him to blow upon the flute should he find himself in trouble. The hero continues to the castle, where his medicine cures the princess. As he is a peasant and considered something of a simpleton, the king does not want his daughter to wed the young man. The hero is given three tasks that he must complete successfully in order to win the princess. As the second task, he is told to tend three hundred woodland hares. People brought hares from throughout the kingdom at the king's request and released them. "The poor fellow stood there all alone. Then he plucked up his courage and went out of town, while everybody laughed at him. Walking along, he suddenly thought of the little flute that the gray old man had given him. When he was out of town, he started blowing it. The hares immediately came running along and remained by his side. The king had a big pasture, and he led them to it. There he drilled them; they were like soldiers."[544]

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[544] Kurt Ranke, ed., *Folktales of Germany* (Chicago: Chicago University Press, 1966), 109-10.

In this folktale, the flute is a magical instrument employed by the hero to complete a task that would have been otherwise impossible. It is the sound of the flute that allows the hero to gather and control the hares. While the flute is associated with animals and union with nature in a number of myths, here it functions to exercise control over nature rather than establish a state of union with nature. This recalls Apollo's use of music to establish control over nature in contrast with Pan's symbolic union with nature in playing his syrinx. The hero plays the flute as he enters the forest. This recalls the pastoral association of the instrument in the myth of Pan. Furthermore, hares are notable for their propensity to reproduce quickly and are thus symbolic of fertility. The flute and fertility are again connected, as they are in numerous ethnographic examples and mythologies.

The flute has the power to control animals not only in *The Hare Herd*, but also in another German folktale, *The Pied Piper of Hamelin*. Although the instrument in this tale is identified only as a pipe, instruments commonly called pipes are typically classified as vertical flutes. In this story, the town of Hamelin was suffering from an infestation of rats when a man dressed in pied clothing arrived and offered to remove the rats. The townspeople agreed to pay him, and he lured all but one of the rats to drown in the Weser River. The townspeople, however, refused to pay the rat-catcher. He returned to the town, this time dressed in green, and played his flute to lure the children of the town away. He lured them into a cave, and they were never seen again. In

this folktale, the flute has the power to control children as well as animals. The rat-catcher's green costume connects him with nature. Thus, the flute is associated with nature, as frequently occurs in other contexts. The flute is also connected with death in this tale. The rat-catcher lures both the rats and the children to their deaths by playing the flute. Although the instrument is linked to death in numerous ethnographic examples and myths, this association stems from the flute's power to ensure rebirth. In this folktale, the flute has lost this function, and it has become a lure leading to death. It is significant that in this tale flutes are associated with caves, as are Upper Paleolithic flutes. Moreover, the footprints found within Upper Paleolithic cave sites are those of children.

In summary, myths and folktales confirm that the flute is typically connected with certain motifs. Ethnographic comparison has revealed that the flute is linked with the motifs of procreation, rebirth, and fertility. It is symbolic of union with nature and the life force itself. It is thus imbued with the power to direct and control the life force. This is the true power of the instrument, as suggested by its role in myth and folktales in addition to ethnographic sources. The flute is most often associated with a positive manipulation of the life force in that it is used to bring about rebirth in the spirit realm or to assure the fecundity of animals or crops. It is less commonly associated with a negative manipulation of the life force, as for instance, in *The Pied Piper*. The central power of the instrument in both cases is to direct

and control life itself. The flute functions as a magical instrument, with the power to give and take away life. The act of blowing into the instrument harnesses the player's own life force, in the form of his breath, which is then directed through the shaft of the instrument. In this manner, the flute functions much like a magic wand, with the power over life itself.

Chapter 9: Epilogue

The intention of this study was to discover the meaning and function of the flute during the Upper Paleolithic era. An understanding of the function of flutes at this time is significant in that they are the oldest indisputable musical instruments extant in the archeological record. An understanding of the flute's meaning and function within Upper Paleolithic culture thus elucidates the significance of musical instruments in the course of human history and culture in a more general sense.

Problems encountered in conducting this study include the remoteness of the Upper Paleolithic era, which began from 43,000 to 38,000 years ago. The surviving evidence from the period includes only artifacts, footprints, and mobiliary and parietal art. Unlike music-archeological research that focuses on later historic periods, there are no written records that can inform the interpretation of musical artifacts. As a result, ethnographic comparison and other methods, such as the investigation of relevant mythology, must be employed. In addition to an investigation of the artifacts and archeological contexts, these methods enable the formation of hypotheses regarding the significance of flutes in Upper Paleolithic culture. However, the period is so remote that these hypotheses can be neither validated nor rejected in light of the available evidence.

Other Upper Paleolithic musical instruments are beyond the scope of this study, as are putative Middle Paleolithic instruments. The former include

bullroarers, pierced reindeer phalanges, and possibly rasps. Middle Paleolithic artifacts that may be musical instruments include pierced reindeer phalanges and perforated animal bones that may be flutes. There are artifacts from both periods not yet examined with respect to musical function; these may have been musical instruments or components of musical instruments. They include animal teeth and shells, which may have been components of rattles. The study of these artifacts might further the understanding of the flute in Upper Paleolithic culture.

It was found in this study that in many parts of the world the flute has been predominantly associated with fertility and growth and endowed with the power to ensure both. Because it has this power, the flute is utilized in rituals related to these issues. In many cultures, the instrument has not only power to ensure fecundity and growth, but also power to bestow life. As such, it is used in funerary rites to ensure the rebirth of the deceased. It is the generative, life-giving power of the flute that is the basis of its significance. This significance and related functions most likely extend back to the Upper Paleolithic period.

The results of this study have revealed the indispensable role of the flute as a medium through which humans imbued sound with symbolic meaning. The appearance of flutes in the archeological record from the outset of the Upper Paleolithic era constitutes evidence of humans' propensity to endow sound with symbolic significance. As with visual images, sound is imbued with multiple layers of meaning. The flute is endowed with meanings

relevant to the essential experiences of life and death. The simplicity of its form allows the human imagination to attribute a wealth of meanings to the instrument.

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